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Research Report

Adjusting to trade liberalization: The role of policy, institutions and WTO Disciplines

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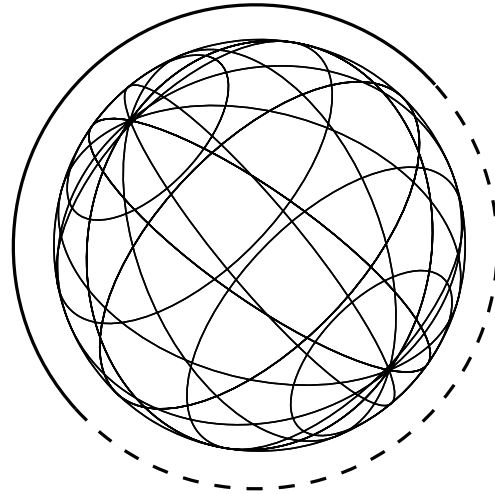
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ADJUSTING TO TRADE LIBERALIZATION

THE ROLE OF POLICY,
INSTITUTIONS AND
WTO DISCIPLINES

Marc Bacchetta and Marion Jansen

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April 2003

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Table of Contents

I.	Introduction and Executive Summary	5
II.	Trade and the pace and pattern of economic change	9
III.	On the benefits and costs of trade liberalization	15
	A. Temporary adjustment costs and long-term benefits	15
	B. Evidence on adjustment costs: the net gains from trade liberalization when adjustment costs are taken into account	16
	C. Evidence on adjustment costs: the effect of trade liberalization on (un)employment.	17
	D. Results and open questions: why are adjustment costs a matter of concern for policy makers?	18
IV.	Why it is important to distinguish between adjustment effects and other income effects of trade reform	21
	A. Workers and adjustment	22
	1. <i>How are workers affected by adjustment costs</i>	22
	2. <i>Empirical evidence on the losses suffered by displaced workers</i>	23
	B. Firms and adjustment	26
	C. Adjustment costs and resistance against trade liberalization.	29
V.	Governments can facilitate the adjustment process.	33
	A. Domestic institutions and policies	33
	1. <i>Credit markets and social safety nets</i>	33
	2. <i>Labor markets</i>	34
	3. <i>Education and training</i>	36
	4. <i>Infrastructure and utilities</i>	36
	5. <i>Information and expectations</i>	37
	6. <i>Domestic macroeconomic policy</i>	37
	B. Trade policy	37
	1. <i>Political and economic arguments in favor of gradual trade liberalization</i>	37
	2. <i>Why implementation periods may help firms to adjust but cannot replace social safety nets</i>	39
	3. <i>Why the credibility of trade policy matters for adjustment</i>	39
	4. <i>Export promotion and the expansion of exporting sectors</i>	40
VI.	WTO provisions give governments flexibility in managing trade-related adjustment	43
	A. Transition periods, implementation periods, deadlines	44
	1. <i>Transition periods available to all Members</i>	44
	2. <i>Additional flexibility for developing and least-developed countries</i>	45

B.	Safeguard measures	48
1.	<i>Article XIX and the Agreement on Safeguards</i>	48
2.	<i>Other specific safeguards</i>	52
3.	<i>Differences between safeguards and other contingent protection instruments</i>	55
4.	<i>Balance-of-payment provisions</i>	56
C.	WTO provisions on subsidies	58
VII.	Bibliography	61
VIII.	Technical Annex	65
A.	Structural change index	65
B.	The distributional effects of adjustment costs	65
C.	When adjustment takes time	65
IX.	Annex Section II	67

I. Introduction and Executive Summary

"Instead of defending an imperfect state of affairs, political leaders should be advocating change."

"...it takes courage to pursue policies that will bring change and upheaval. Economic restructuring does not just create new jobs: it also puts some people out of old ones..."

"It is time to bring out into the open what it really takes to improve the world's trading patterns. That means admitting that some people, in Europe and elsewhere, will have to adjust. However painful, these facts have to be faced before the real issues can be tackled".

Pagrotsky, L. (Trade Minister of Sweden), Financial Times, 09.01.2001:

Background

The proposition that countries can benefit from trading with one another is less contentious than virtually any other idea in economics. But easy agreement ends there. Questions such as how quickly to open up markets to foreign competition, what sectors to focus upon and what sequence of policies to follow all generate important differences of opinion. These differences arise from a variety of factors, some political and social, others economic. One major reason for competing views and interests is that the reduction of barriers to trade will benefit some and hurt others, although sound policy should be able to reduce the latter costs. The redistributive consequences of changes in trade policy can be justified if the economy as a whole is better off as a result of more open trade, but this is small comfort to those adversely affected by change.

In November 2001 a new round of trade negotiations was launched at Doha, Qatar. An important aim of these negotiations is further to reduce barriers to trade. Many studies over the years conclude that further trade liberalization will lead to increases in income, especially in developing countries. The World Bank, for instance, estimated that abolishing all trade barriers could increase global income by US\$ 2.8 trillion and lift 320 million people out of poverty by 2015.¹

While supporters of a more open trading system point to these positive economic effects of trade liberalization, others emphasize its costs.² In the United States, for instance, 45,000 steelworkers have lost their jobs since 1997 and thirty per cent of the country's steel making capacity has filed for bankruptcy since 1998, while steel imports were on the rise.³ In Mozambique liberalization of trade in cashew nuts resulted in 8,500 of 10,000 cashew processing workers losing their jobs.⁴

These examples highlight losses suffered by particular sectors of the economy. Under standard assumptions about the efficiency gains from trade, these losses will be offset by gains in other

sectors. Sometimes, however, the question is asked whether trade liberalization is worthwhile in light of the associated adjustment costs. In the first five years following the implementation of the Free Trade Agreement (FTA) with the United States, for example, Canada lost a staggering 390,600 jobs in the tradable sector (Gaston and Trefler, 1997). As a consequence, calls for the re-negotiation and even abandonment of the agreement enjoyed popular political support in Canada. It turned out, however, that other economic factors were responsible for the largest part of these job losses.⁵ Even if arguments against the FTA were based on a mis-perception, this episode brought into sharp relief the tension between future gains from trade and likely losses suffered by the economy during the adjustment phase.

While economists emphasize the long-run gains from trade, policy makers are in many cases worried about the short-run costs. Not much evidence is available about the size of these costs, in particular when it comes to developing countries. Nor is the adjustment process following trade liberalization very well understood. Yet policy makers need to have an understanding of this process if they are to win support for trade reform and if they are to intervene effectively as necessary to mitigate the costs of adjustment. As Dean Hirsch put it in his speech at a WTO Symposium:⁶ *"But what are the dynamics of the adjustment process [...]? How are people's lives impacted? Are there alternative jobs available for workers displaced by plant closures? Are there safety nets in place when they become unemployed?"*

Trade liberalization will change the setting in which an economy functions and will set off a number of adjustments. Indeed, economists predict that trade liberalization will induce adjustments which correspond to a reallocation of resources to more productive uses. Adjustment thus represents a *sine qua non* for efficiency gains from trade. Adjustment, therefore, cannot be avoided. Yet, as this study will show, adjustment can take different forms and can entail a variety of costs for the economy.

¹ World Bank (2002).

² These costs tend to be more immediate and more "visible" than the benefits. This does not imply that the costs of adjustment are larger than the benefits of trade liberalization.

³ Article by Robert Zoellick, US Trade Representative in the Financial Times of March 12, 2002.

⁴ Mozambique News Agency, AIM Reports No. 1999, 23rd January 2001.

⁵ See the discussion in Section III.C.

⁶ Symposium on issues confronting the world trading system (World Trade Organization, June 2001). Opening remarks of Dean Hirsch, International President of World Vision.

Main Findings

This study examines in detail the process immediately following a change in trade policy and analyzes what this process entails for the economy as a whole and for individual workers and companies. The study aims to assist policy makers in pinpointing those aspects of an economy that hamper adjustment. It seeks to identify tools at the disposal of governments to smooth adjustment, to minimize an economy's adjustment costs and to alleviate the burden of those who suffer most. Some of the salient conclusions from the study are summarized below.

- **Trade liberalization is an agent of economic change, but evidence shows that it does not lead to drastic changes in a country's overall production structure.**

Aggregate statistics suggest that the major part of observed structural change reflects underlying trends in economic development. While trade liberalization is doubtless part of the story, other factors such as technological change weigh more heavily in explaining pressures for adjustment.

- **Adjustment costs are typically smaller, sometimes much smaller, than the gains from trade.**

A survey of empirical estimates of adjustment costs reveals substantial difficulties in defining the true nature of adjustment costs and in measuring those costs. Results from all studies known to the authors, however, show that adjustment costs are small compared to the benefits of trade.

- **Governments can identify individuals and groups that may suffer from the adjustment process and they can also develop policies to alleviate the burden falling on those adversely affected.**

The burden of adjustment costs will fall most heavily on production factors employed in import competing industries. These losses can be substantial for certain workers and companies. Private savings or social safety nets will help workers concerned to get through periods of low or zero income. It is important that such buffers exist, as their absence may seriously hamper the economy's adjustment process. In other words, assistance during adjustment periods can be justified on efficiency grounds.

If policy makers want to intervene to compensate those who lose from trade liberalization, they should design policy measures differently depending on whether they are directed towards short-run (adjustment) losses or long-run losses. In the first case policies should provide only temporary assistance as they are meant to serve as a buffer during a transition period. In the second case only policies of a more permanent character (e.g. redistributive tax systems) can serve the purpose. While intervention in the adjustment process may make sense sometimes on efficiency grounds, it is mainly equity considerations that would drive governments to address the long-run distributive effects of trade reform.

- **Governments can adopt policies that influence the size of adjustment costs faced by the economy.**

Domestic markets exert an important influence on the size of adjustment costs faced by workers and/or companies. The same is true of domestic institutions to the extent they affect the

functioning of markets. To a certain degree, therefore, policy makers can influence the size of adjustment costs an economy faces as a consequence of trade liberalization, which in turn may allow a government to go further and faster in reaping the gains from trade.

The study emphasizes the importance of well functioning credit and labour markets for the adjustment process. Displaced workers will be aided if they can acquire funding to endure periods of low or zero income. Enterprises may be required to undertake significant investments in order to adjust. In both cases credit markets play an important role in facilitating adjustment, and many developing countries are likely to be at a disadvantage in this regard.

Domestic labour market conditions help to determine costs to workers of leaving an employer and searching for a new job. Labour market conditions also affect companies' incentives to create jobs, which in turn affects the duration of unemployment spells during an adjustment episode. The functioning of the labour market also influences the level of political resistance to trade reform. Apart from ensuring an effective labour market, governments may also have an important role to play in supplying information on jobs, wages and so forth.

The quality of a country's infrastructure and utilities also influences the adjustment process. This is particularly the case for firms, where higher transaction, information and communication costs are likely to have a negative impact on producer responses to trade reform.

- **Adjustment costs can be reduced if trade policy reforms are underpinned by international commitments.**

The study argues that participation in international agreements, like the WTO Agreements, may enhance the credibility of trade reform and thus facilitate adjustment. Workers and firms will adjust more effectively and with less delay to trade reforms if they are convinced that the reforms will not be reversed.

- **The pace of trade reforms can have a beneficial impact on adjustment costs.**

Delayed implementation periods for trade policy changes may give firms with the potential to adapt to a new competitive environment the necessary time to finance adjustment costs internally through accumulated profits. Longer implementation periods for developing countries may be justified on the grounds of higher adjustment costs for companies and poorly functioning credit markets in these countries.

But additional time alone may not be sufficient in all cases. Low income workers, for example, will not be able to use additional time to accumulate savings from their income. For this reason, the study argues that delayed implementation periods for trade reform are not necessarily a substitute for social safety nets.

- **The implementation of trade reforms at a gradual pace may lessen political opposition to change, but the risk of undermining reforms by adopting them too slowly must also be borne in mind.**

A gradual approach to policy changes may be adopted to spread adjustment costs over time, so mitigating political

opposition to trade reform. Gradual liberalization can also smooth the adjustment process when the effects of trade liberalization are highly concentrated in certain regions or have strong repercussions in the country as a whole. On the other hand, if reforms are carried out too slowly or are not sufficiently well defined in advance, gradualism could undermine the integrity of intended reforms.

- **In many cases effective adjustment to trade liberalization will require the expansion of a country's export sector and this may be an argument for pro-export policies.**

If effective adjustment is aided by growth in export markets and export expansion occurs too slowly or fails to materialize, the process of change may be seriously hampered. The study argues that exporters in developing countries may face particular problems. To the extent that these problems hinder the adjustment process, the use of export promotion schemes can be defended on economic efficiency grounds.

- **WTO agreements seek to provide space for governments to tackle adjustment problems.**

In practice, multilateral trade liberalization is by its very nature a gradual process that takes into account difficulties related to adjustment. Multilaterally agreed trade rules and disciplines also offer countries several safety valves that can be used to address adjustment problems.

Most WTO Agreements contain more or less explicit provisions aimed at facilitating their adoption. In particular, they often specify phased-in implementation periods. Implementation periods tend to differ among agreements and groups of countries, with developing and least-developed countries usually being granted longer implementation periods.

"Safeguard" provisions in WTO agreements offer Members the possibility to react *ex post* to problems caused by unforeseen import surges. This study argues that the drafters of WTO agreements tended to focus on restructuring industries hurt by import competition, rather than on the reallocation of resources

released by the contraction of import competing sectors. The study also argues there has been a tendency for firms to resort to anti-dumping remedies rather than safeguard remedies when seeking temporary relief for adjustment purposes.

Organization of the Study

Section II of the study presents empirical evidence on the pace and pattern of economic change in past decades. It also discusses evidence on the impact of trade liberalization. Section III briefly considers what economic theory has to say about the likely relationship between the long-term gains from trade and adjustment costs. It then presents a survey of empirical estimates of adjustment costs and examines evidence concerning the effects of trade liberalization on the level of unemployment, one of the indicators for adjustment problems. Section IV analyzes the adjustment process at a more detailed level by looking at how trade liberalization affects individual workers and companies. This section emphasizes the difference between adjustment effects and other income effects of trade reform. It also discusses how adjustment problems may lead to resistance against trade liberalization.

Section V considers those characteristics of an economy that actually affect the size of the adjustment costs individuals and the economy face after trade liberalization. This section identifies potential instruments at the disposal of governments to facilitate adjustment. It also addresses the question of how the design of trade policy affects adjustment costs. Throughout Section V particular attention is paid to the functioning of markets and institutions affecting adjustment in developing countries. For instance, it addresses the question whether adjustment costs may be relatively high in developing countries because of the quality and availability of infrastructure and public services. Taking into account that developing countries have often embarked on trade reform in the wake of economic crises, Section V also examines the interaction between domestic macroeconomic policy and trade policy. Finally, Section VI discusses WTO provisions in terms of their effect the ability of governments to intervene in the adjustment process.

II. Trade and the pace and pattern of economic change

Economies are continuously adjusting to all sorts of influences and disturbances. Along with policy reforms, these include economic development abroad (and at home), technological innovations, demographic developments, changes in consumer tastes, disturbances in financial markets, abnormal weather and civil strife. With many different pressures for change operating at the same time, it is difficult to assess how much change in an economy's pattern of production and employment is caused by any single factor such as trade liberalization. This difficulty is likely to be compounded in developing countries, where there is frequently an acute lack of reliable data.

Structural change or structural adjustment—the terms are used interchangeably—refers to changes in the pattern of production and resource use among firms, industries and regions. Public concern about the pattern and speed of structural change has increased in recent years. It has been argued, for instance, that the pace of structural change has become excessive in recent years in the industrialized countries. Blame for any perceived acceleration has often been put on “globalization”, that is on increased international economic integration and the progressive opening of national economies to trade and factor movements—a conclusion based largely on intuition and “feeling” rather than hard evidence.

In fact, available evidence does not support the view that the pace of structural change has accelerated, nor that trade is the main cause for changes in the pace of structural change. The main conclusions, discussed in more detail below, are as follows:

- In most regions of the world, the pace and pattern of overall structural change—defined as shifts in the relative shares of agriculture, industry and services in national output—has not changed significantly since the late 1960s. This is in line with the view, based on a large amount of historical evidence, that overall structural change is driven primarily by changes in the level of development (that is, fundamental changes associated with rising per capita incomes).
- In the cases analyzed, adjustments *within* the manufacturing sector—that is changes in the shares of its sub-sectors—do not seem to reflect changes in trade flows.
- Evidence on the speed of structural change before and after episodes of trade liberalization in selected countries shows no clear link between the speed of structural change and changes in the level of a country's openness to trade.

Globalization has not altered the overall pattern of structural change

The evolution of the shares of agriculture, industry, and services in GDP for different groups of countries (see Graph II.1) suggests that patterns of change have not been disrupted in the

last fifteen years. Patterns of production have evolved rather smoothly in all groups of countries (except Latin America), reflecting long-run patterns of economic development. That is, as the level of development increases, the share of agriculture decreases and the share of industry increases up to a certain point; thereafter, industry's share starts decreasing, while the share of services increases.

In the developed countries, the share of manufacturing value added in GDP, as well as the share of manufacturing in total employment, have declined continuously since the late 1960s. This phenomenon is often referred to as “de-industrialization”. In effect, this decline in the relative importance of manufacturing in rich countries has gone hand in hand with rising living standards in those countries. As with the declining share of agriculture, it is a natural feature of the process of economic development.

The decline in the relative share of manufacturing is due primarily to the rise in the prices of services relative to prices of manufactures, which in turn is largely the result of the slower growth of productivity in services.⁷ In other words, “de-industrialization” in the industrialized countries is mainly the result of unequal rates of productivity growth in manufacturing and services, reflecting different rates of technological progress in the two sectors. International trade may have played a role—higher productivity growth in manufacturing may be due to the fact that it is more exposed to international competition than services. But trade certainly is not the only or even the main factor behind de-industrialization.

Technological progress is a more important source of structural change within manufacturing than is trade

Changes within manufacturing do not seem to be a direct reflection of changes in trade flows. From Graph II.2 it is evident that the importance of textiles and clothing and basic metal industries in manufacturing has declined substantially in the US and Japan.⁸ Both industries are relatively labor intensive and would be expected to be among those facing difficulties in remaining competitive when faced with increased competition from developing countries. In both the US and Japan, in contrast, the share of machinery and equipment in manufacturing output has increased, with both countries being major exporters of products in this category. In the US the same thing is true of the chemical industry.

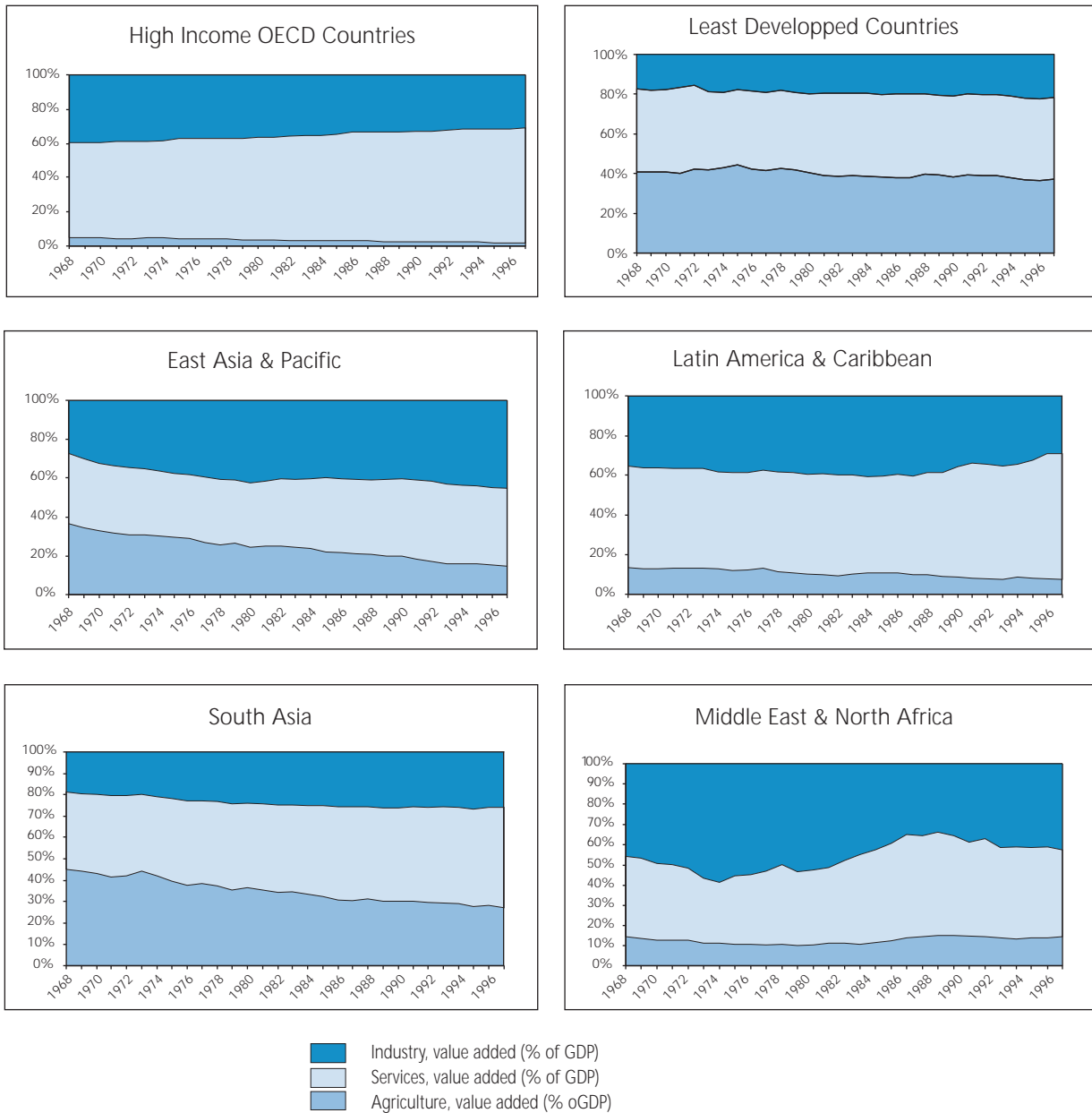
The share of textiles and clothing in Japan's manufactured imports increased from 3 per cent to 14 per cent between 1963 and 1995, while the share in exports declined from 23 per cent to 2 per cent in the same period.⁹ The share of machinery and transport equipment in exports rose from 32 to 74 per cent, while

⁷ Measured at constant prices, the shares of manufactures and services in total output have remained fairly stable in the industrial countries. See IMF (1997).

⁸ Changes in the composition of the manufacturing sector do not show a clear pattern across developing countries, as Graph II.2 Annex shows. This graph also contains information on industrialized countries other than US and Japan.

⁹ Source: United Nations: Comtrade Database.

Graph II.1.: Share in GDP of agriculture, industry and services, 1968-1997 (current prices)



Sources : World Bank Indicators, WDI 2000

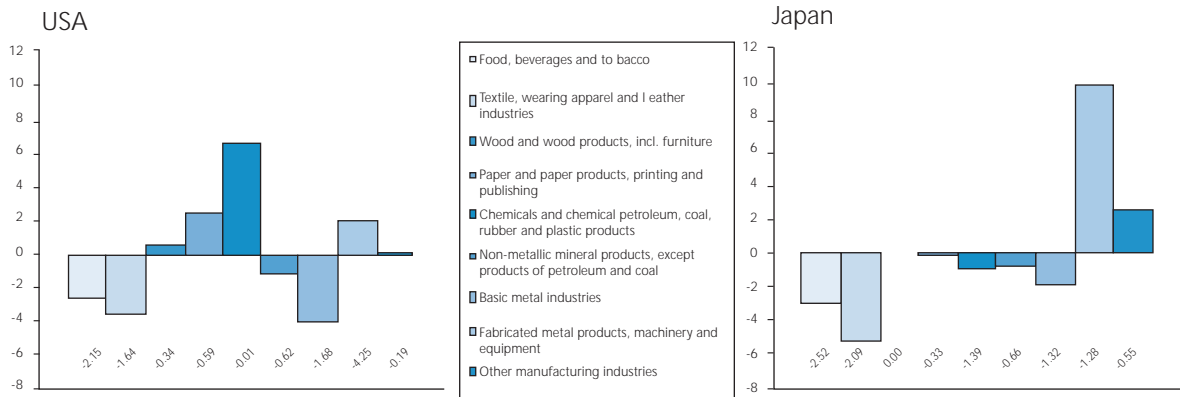
imports showed a decline from 53 to 43 per cent. Changes in Japan's trade pattern thus show certain similarities with changes in the composition of production across branches within manufacturing.

The same cannot be said for the US, where the share of textiles and clothing in total manufacturing exports decreased from 4 to 3 per cent, while the share of machinery and transport equipment rose from 58 to 63 per cent. In general the composition of manufacturing exports remained fairly stable in the US over this period. Major shifts took place, however, in US manufacturing imports, with the share in imports of machinery

and transport increasing from 27 to 59 per cent and those of textile and clothing and of semi-manufactured goods (includes leather and wood) decreasing from 15 to 9 per cent and 27 to 9 per cent, respectively.

Of the two countries, only in Japan do changes in the composition of manufacturing output show some parallels with changes in the country's trade flows. But Graph II.2 shows that in both countries the weight of each manufacturing branch in the country's total GDP has declined. In other words, the increased importance of certain branches within manufacturing merely reflects the fact that they declined less (in absolute terms) than

Graph II.2. : Changing weights of industry branches within manufacturing and within total GDP



Note : Bars indicate percentage changes in industry branches' share of manufacturing value added in 1962-1997. The number below each bar indicates the percentage changes of the relevant branch in the country's GDP for the same period. (No data for wood in Japan)

Sources : World Bank Indicators, WDI 2000

other branches. In other words, the expanding service sector attracted production factors from all branches in the manufacturing sector.

Trade may have played a role by slowing down the relative decline of the export-oriented industries while accelerating the decline of import-competing industries. Granted these conclusions are based on just two examples, but they are consistent with conclusions from the debate about the causes of increased inequalities between skilled and unskilled workers in industrialized countries¹⁰, namely that the impact of trade is significantly smaller than the impact of technological change.

The pace of structural change is not related to trade openness in the United States and Japan, and actually decreased after trade liberalization in four developing countries

Though the impact of trade on the pattern of structural change seems to be limited, we would expect periods of increased openness to trade to lead to a faster pace of change within the liberalizing economy. Economists have developed a "Structural Change Indicator (SCI)"¹¹ to measure the pace of structural change. Graph II.3 shows the level of average SCI before and after trade liberalization for the manufacturing sector of four non-industrialized countries (Colombia, Chile, Philippines and Israel), for which the relevant data were available for at least seven years before and after the year of trade reform.¹² Contrary to expectations, in all countries the manufacturing sector underwent significantly less structural change in the period

following trade liberalization than in the period preceding it. This could indicate that trade actually has a *smoothing* effect on the pace of change, but more research would be needed to differentiate between this and other possible explanations.¹³

Graph II.4 gives us an idea of the impact of trade on the speed of change in the US and Japan. Both countries were characterized by fairly liberal trade regimes over the entire observation period, and in both the ratio of trade to GDP—one commonly used indicator of trade openness—was relatively high but variable during much of the seventies and the beginning of the eighties (a period characterized by, among other things, the impact of the 1973 oil crisis). After 1985 the ratio increased steadily in the United States, while in Japan it decreased to levels prevailing in the sixties.

The levels of the SCI in the three different sub-periods identified in Graph II.4 do not show any clear parallels with the level of involvement of Japan and the US in world markets. In particular the SCI for the United States in the period of 1986-1997, which is one of high and increasing trade flows, is not significantly different from that of 1962-1973, a period in which the ratio of trade to GDP was low. In Japan the incidence of structural change was highest in the first of the three periods, which is also the period where the ratio of trade to GDP was relatively low.

Graph II.4 also gives an indication of the major sources of change within the economy.¹⁴ For each of the three periods, the

¹⁰ See Cline (1997).

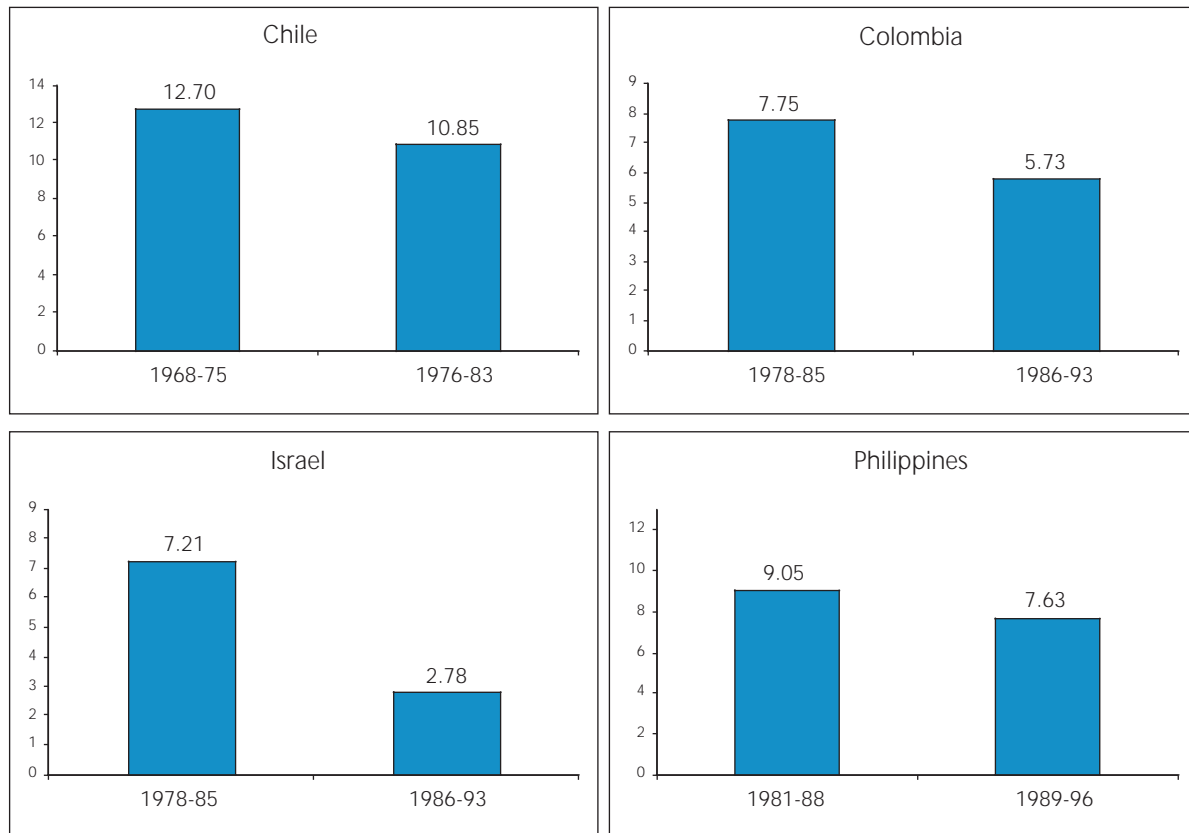
¹¹ See the Technical Annex for detailed information on this measure and its characteristics.

¹² The year of trade liberalization is taken from Sachs and Warner (1995). Average SCI compare the average structure of the economy over the last three years of the relevant period with the average structure in the first three years of the same period. Due to the limited availability of disaggregated data for the service sector in developing countries, the graph focuses on changes within the manufacturing sector. See Graph II.3 Annex for the evolution of annual changes over time.

¹³ An alternative interpretation would be that trade liberalization is announced in advance and that economic actors adjust before the reform actually takes place.

¹⁴ This analysis is possible because disaggregated data for the service sector are available for major industrialized countries (see data sources).

Graph II.3.: The extent of structural change within manufacturing before and after trade liberalisation



Note : Average SCIs for indicated periods and for manufacturing value added disaggregated into nine industry branches (see Graph II.2)

Sources : Industrial Statistics Database 3-Digit ISIC 2000 (UNIDO) Sachs & Warner : Trade openness indicators. Harvard University website

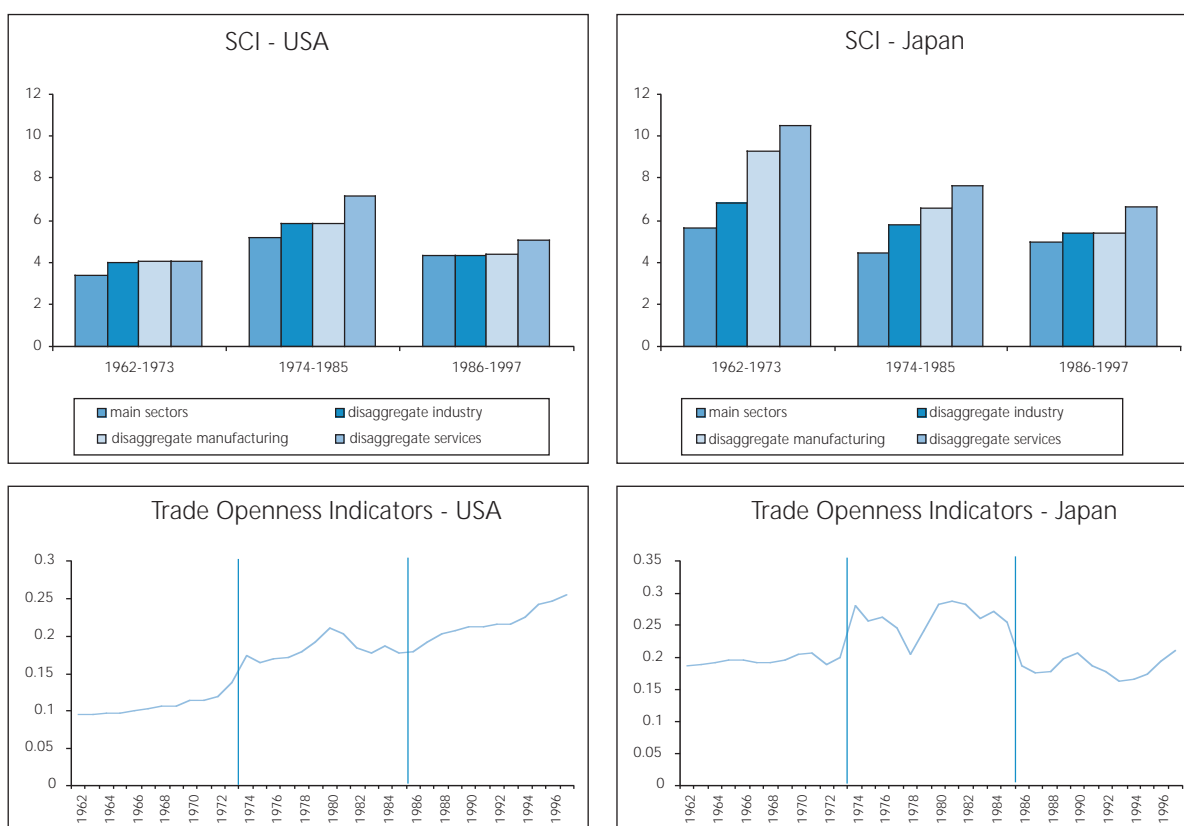
first column on the left shows the importance for each country of changes in relative shares among the three main sectors (agriculture, industry and services). The second column indicates the extent (if any) of the increase in structural change we obtain by allowing for the changes taking place within "industry", when "industry" is divided into construction, mining, utilities (electricity, gas and water) and manufacturing. The third column allows for additional structural change within the manufacturing sector and the fourth column allows for additional structural change within the service sector.

We see that over the whole observation period, by far the largest structural changes in the US economy are due to changes in the relative weights of agriculture, industry and services. Shifts between construction, mining, utilities and manufacturing added some variation to the economy in the first two periods, but the

additional effect of allowing for shifts within manufacturing was insignificant over the whole observation period. In Japan, changes in the relative sizes of different industries within manufacturing did play an important role in the economy's overall level of structural change in the first two sub-periods. Last but not least, Graph II.4 shows the importance of structural changes within the service sector in determining the overall level of structural change for both economies, in particular in the periods of 1974-1985 and 1986-1997. It should however be pointed out that the level of aggregation in the data we used may not appropriately reflect all the changes going on in the economy. Recent studies have shown that the bulk of resource reallocations across firms remains internal to a specific industry.¹⁵ More detailed data analysis would be necessary in order to capture the impact of such intra-industry adjustment on the overall level of an economy's structural change.

¹⁵ See Melitz (2002).

Graph II.4.: Structural change and openness to trade in the U.S. and Japan



Note : Average SCIs for indicated periods on different levels of disaggregation: main sectors (agriculture, industry, services), disaggregate industry (main sectors, with industry disaggregated into construction, mining, utilities (electricity, gas and water) and manufacturing), disaggregate manufacturing (disaggregate industry, with manufacturing disaggregated into nine industry branches (see graph II.2) and disaggregate services (disaggregate manufacturing, with services disaggregated into four subsectors (wholesale, retail trade, restaurants and hotels ; transport, storage and communication ; finance, insurance, real estate and business services; community, social and personal services). Trade openness indicator is computed as the ratio between the sum of exports and imports on the one hand and GDP on the other hand.

Sources : OECD, National Accounts Vol II, detailed tables, 1960-1997
Sachs & Warner

III. On the benefits and costs of trade liberalization

To judge whether trade reform will benefit the country, policy makers need to have a reasonably good idea of both the expected costs of adjustment associated with the reform, and—in particular—how those costs compare with the expected gains. In this section we first examine briefly what economic theory has to say about the likely relationship between the long-term gains from trade and adjustment costs. We then turn to the empirical evidence to see if it confirms what the theory predicts.

A. Temporary adjustment costs and long-term benefits

There will always be industries in which foreign competitors are more efficient than domestic producers. When import barriers on the products of those industries are lowered, the foreign producers will be able to attract domestic consumers with lower prices. Domestic import competing firms in those markets will face downward pressures on sales and profits, which in turn can lead to pressure for lower wages, job losses and perhaps even company closures. Lower wages and/or job losses, and the

prospects of lower returns to capital, will cause workers and capital to leave in order to find employment in other parts of the economy. This is very likely to include the country's export industries, especially if the trade liberalization is the kind of reciprocal liberalization that occurs in a multilateral round such as the recently launched Doha negotiations. Provided the country is pursuing sound economic policies, other parts of the economy are also likely to be expanding, as consumers—who are benefiting from lower prices due to the trade liberalization—expand their purchases of a range of other goods and services.

Sometimes transitions from the previous employment to the new employment take place relatively smoothly, as happens when a booming export sector “pulls” workers and capital away from domestic import competing firms. Unfortunately, this is not always the case. When it is not, workers incur adjustment costs in the form of periods of unemployment, along with moving expenses and/or retraining costs to obtain new skills. Entrepreneurs and shareholders in the declining import competing firms are also likely to suffer adjustment costs in the form of declines in capital values.

Box III.1: Adjustment costs for the public sector

The integration of a country into the global economy brings benefits and challenges not only to consumers and business but also to the public sector. Adjustment costs linked to trade liberalization of the government sector are not discussed in this study as it focuses on the enterprise sector but are flagged in this box. For many developing countries, tariff reductions are an element of trade liberalization which is of particular concern due to its negative impact on tax revenue. This concern is justified given the fact that tariff revenues are still an important source of tax revenue. In the mid 1990s tariff revenue exceeded 30 per cent of the government's total tax revenue in more than 25 developing countries. This contrasts sharply with the situation in high-income countries for which tariff revenues typically represent less than 2 per cent of total tax revenue.

Developing countries have also expressed concerns about the revenue implications of the introduction of the WTO Customs Valuation Agreement. The view has been expressed that the shift from “reference prices” to “transaction values” for the determination of the tariff payments could lead importers to declare transaction values considerably lower than the “real” value or the preceding reference prices, and that the customs administrations, unable to detect or prove false declarations of the transaction value, would suffer from a loss of revenue. Empirical evidence to confirm or refute these concerns is not available. In cases where the implementation of the WTO Customs Valuation Agreement implied a shift to transaction values, it often went together with a general reform and modernization of custom administrations. The impact of the shift to “transaction values” is therefore blurred by the repercussions of other changes.

As regards the revenue implications of trade liberalization, one has to distinguish at least two features. First, trade liberalization which takes away non-tariff barriers (quota, restrictive licensing requirements, etc.) and replaces them with tariffs will have a positive revenue impact. Once trade protection is based only on tariffs, the revenue implications of reductions in applied tariff rates depends on the price elasticity of imports and (due to balance of trade restraint) of exports. According to a recent study, price elasticities in open economies have to be much higher than empirically observed elasticities for trade liberalization to be self-financing. These findings imply that significant tariff reductions should be planned together with a reform of the general tax system to avoid the emergence of fiscal deficits or a curtailment of government expenditure.¹⁶

Empirical evidence on the impact of major trade liberalization programmes (which were not exclusively focussed on tariff reductions) show that revenue implications are not necessarily significant. For Bangladesh, Chile and Mexico trade liberalization since the mid-1980s has reduced applied tariff rates by more than 10 percentage points, reducing the ratio of duties to total tax revenue significantly in Bangladesh, but only slightly in Chile and Mexico. In each case import growth accelerated sharply. An interesting feature of the trade liberalization in Chile and Mexico is the fact that in the initial years of trade liberalization, the ratio of import duties to total tax revenue was rising in both countries but declined steadily thereafter.

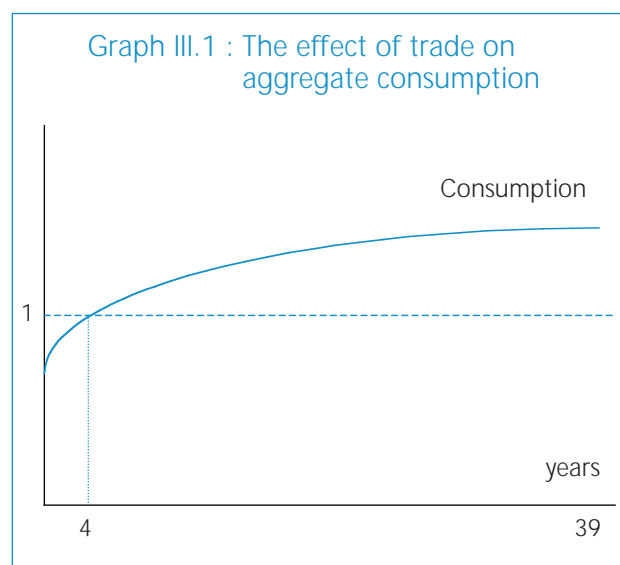
¹⁶ S. Devarajan, D.S. Go and H. Li, “Quantifying the fiscal effects of trade reform: A general equilibrium model estimated for 60 countries”.

Trade liberalization, however, will lead at the same time to two basic types of gains for the economy. Consumers gain from the lower prices (and increased quality and variety) that come with trade liberalization. In addition, the adjustment process described above will bring efficiency gains, as increased international specialization allows factors of production to shift into activities in which the country is relatively more productive (that is, in line with its comparative advantage). Trade liberalization brings even more gains when companies can exploit economies of scale and when trade boosts the country's growth rate (for example, by increasing the inflow of new technologies).

Although the economy may be worse off in the short run, the gains from trade will outweigh short-run adjustment costs in the medium to long term

Even though trade liberalization brings net gains to the economy, this does not imply that the economy is immediately better off. It may well be that for a period of time following the liberalization, the economy is worse off than without liberalization. In this case the adjustment costs are an investment the country makes in order to reap future "profits" in the form of higher incomes.

It cannot be excluded that after trade liberalization aggregate consumption follows a pattern similar to the one depicted in Graph III.1.¹⁷ We see that, compared to the situation without trade (the straight line), aggregate consumption at first decreases. Only after a period of time is the original level of consumption reached, after which consumption increases further until it reaches a more or less stable but higher level. Indeed, the evidence to which we now turn suggests not only that the benefits from trade liberalization have always exceeded adjustment costs in the medium to long term, but that there is little or no evidence of *net* losses from liberalization even in the short run.



¹⁷ This example is taken from Piazzolo (2000), a paper that analyses the effects of EU membership for Poland.

¹⁸ Lawrence Krause in "Comments and Discussion" of Magee (1972).

¹⁹ See the discussion in Section IV.A.2.

²⁰ Each period's net gains from trade are calculated by deducing the period's adjustment costs from the long-run equilibrium output. This leads to an overestimation of the benefits from trade, as adjustment costs lead to efficiency losses as a result of which the economy's level of output will be below the long-run equilibrium during the adjustment period.

B. Evidence on adjustment costs: the net gains from trade liberalization when adjustment costs are taken into account

If trade liberalization is costly, just how costly is it going to be and above all, how do those costs compare to the gains from trade? This is probably the single most important question policy makers would ask with respect to adjustment costs. Unfortunately, answering this question involves a rather complex exercise and requires data that have in the past typically only been available in industrialized countries. What follows is an overview of studies that address this issue.

Existing studies find that the benefits from trade exceed adjustment costs not only in the long run, where the cost to benefit ratio is estimated to be lower than 4 per cent, but even during the adjustment period

An early example is Stephen Magee's study (1972), which was welcomed as the first effort "to calculate the incalculable".¹⁸ In order to estimate what would happen to the US economy if all restrictions on imports were dismantled, Magee first calculated the change in product prices and then the change in demand that would follow. In order to estimate the adjustment costs set in motion by the lower prices and changing demand, Magee estimated the resulting long-run output changes, and then converted the output changes into changes in employment. Using data on the average length of unemployment, he estimated the average duration of unemployment for workers who switch jobs after trade liberalization.¹⁹

These periods of unemployment represent the economy's adjustment costs in Magee's study, and in order to attach a value to them he multiplies them by the estimated wages of the displaced workers. He then spreads these adjustment costs equally over a five-year period, which he assumes to be the time industries will require to adjust to the situation without import barriers. Magee ignores other costs, such as moving and retraining expenses, and the cost of shifting capital to other firms/industries, which implies an underestimation of the adjustment costs in his analysis. He also ignores short-term output responses, which is likely to lead to an overestimation of the gains from trade.²⁰ On the other hand, his gains from trade are likely to be underestimated because he does not take into account the dynamic effects of trade liberalization, in particular the likely impact on the growth rate.

Magee predicts that for imports which are subject to non-quota restrictions (mainly tariffs), the costs of job changes would absorb nearly a third of the gain from a reduction in trade barriers during the five year adjustment period. After this the economy will continue to take advantage of the gains from trade without any further costs being involved. As a consequence the long-run ratio of adjustment costs to gains is reduced to 4 per cent. Gains from

trade liberalization are significantly higher for products protected by quotas, with the result that during the adjustment period, adjustment costs represent only 4 per cent of gains from freer trade. In the long-run the weight of adjustment costs virtually disappears for those items. Overall Magee finds that with the elimination of all trade barriers, adjustment costs represent 12 per cent of gains from trade in the first five years and less than 2 per cent in the long-run.

Baldwin, Mutti and Richardson (1980) perform a similar exercise for a 50 per cent cut in US tariff rates. Their analysis excludes a group of quota-restricted products that were responsible for important welfare gains in Magee's analysis. They include estimated costs for the adjustment of firms' capital stock, and take into account information on economic and social characteristics of workers displaced from import competing sectors in order to calculate the adjustment costs for labor. In their set-up the bulk of the adjustment will take place in the first year after tariff reduction, with the remaining changes following in the second year. While their results show that an important group of industries will suffer negative welfare effects during that first year of adjustment, for all industries combined the net welfare effect is positive even in the first year. Labor turns out to bear nearly 90 per cent of total adjustment costs. For the long-run, the three authors find a ratio of costs to gains from trade liberalization—4 per cent—very similar to that found by Magee (1972).

Other studies have focused on particular industries, with the advantage of being able to use more detailed/precise data. De Melo and Tarr (1990) use a computable general equilibrium (CGE) approach, which allows for economy-wide resource constraints and inter-industry linkages, to quantify the welfare effects and resource shifts implied by a removal of US quantitative restrictions in textiles and clothing, steel and autos.²¹ They find that less than one-quarter of one-per cent of the US workforce would have to change jobs as a result of the elimination of import quotas on textiles and clothing, steel and cars. They base their measure of adjustment costs on the discounted value of earnings losses suffered by the dislocated workers during the first six years after the trade liberalization.²² Gains from the quota elimination are so large—recall that due to the additional distortions created by quotas, the elimination of quotas brings higher welfare gains than the elimination of equivalent tariffs—that already in those first six years that carry the whole adjustment burden, adjustment costs represent only 1.5 per cent of the gains from trade liberalization.

A similarly small role for adjustment costs is found by Winters and Takacs (1991) in their analysis of the British footwear industry. They estimate that the quantitative restrictions in effect in 1979 prevented the displacement of only 1,064 workers. Their measure of adjustment costs is based on income losses from unemploy-

ment of those displaced workers following removal of the quotas. The expected duration of unemployment is calculated taking into account the industry's normal turnover rate and assuming that displaced workers return to the footwear industry when vacancies are available. Using different scenarios, the authors find that all displaced workers regain employment after 5 to 21 weeks. This results in relatively small adjustment costs, while quota elimination results in significantly lower prices of imported footwear and thus large welfare gains. Their results point to a ratio of costs to gains from liberalization of 0.5 to 1.5 per cent for the first year after quota elimination.

C. Evidence on adjustment costs: the effect of trade liberalization on (un)employment

As described above, trade liberalization is likely to induce the relocation of workers. If obstacles to this relocation process exist, it may result in temporary unemployment in addition to the level of unemployment already prevailing in the economy. These temporary increases in unemployment or decreases in employment represent adjustment costs for an economy, as the economy loses the value added normally generated by those idle workers. A series of studies have focused on this particular aspect of the adjustment process.

Studies of the impact of the Canada-US FTA on Canadian employment suggest that tariff cuts contributed to reduced employment during the years following the agreement but that they also contributed to dramatic productivity increases leading to important long-run efficiency gains. In the first five years following the implementation of the FTA, Canada lost a staggering 390,600 jobs in the tradable sector (Gaston and Trefler, 1997). As a consequence, calls for the re-negotiation and abandonment of the agreement enjoyed popular political support in Canada. Gaston and Trefler (1997), however, show that those job losses were mainly due to economic recessions in both the US and Canada during the same period (recessions that were not caused by the FTA). In fact, as a result of the recession, exports and imports contracted over most of the five years following trade liberalization. After controlling for the recession, it appears that FTA-mandated tariff cuts accounted for only 9-14 per cent of the jobs lost over this period.

In a more recent paper on the effects of the Canada-US Free Trade Agreement, Trefler (2001) finds a bigger role for the tariff cuts in the employment declines. According to his estimates, close to 30 per cent of the observed employment losses in manufacturing were a result of the FTA tariff cuts. In those industries that experienced the largest tariff cuts, as much as two-thirds of the 25 per cent reduction in employment is estimated to have been caused by the FTA. The fact that manufacturing employment has

²¹ Another paper using a CGE approach is the analysis of trade reform in Uruguay by De Melo and Roland-Holst (1994). This paper emphasizes the role of administered protection, a form of protection that generates strong incentives for rent-seeking activities involving welfare costs of protection that are larger than the standard efficiency losses. The authors find that elimination of tariffs and administered protection along with the elimination of all rent seeking activity would likely result in the need for approximately 5 per cent of the labor force to relocate. The authors, however, do not estimate the time that relocating workers would spend in unemployment, nor do they estimate the value of production that would be lost during this transition period. Their study therefore does not provide a direct measure of adjustment costs to weight against their measure of benefits of trade reform.

²² This assumption is based on L. Jacobson: "Earnings Losses of Workers Displaced from Manufacturing Industries" in W. Dewald (Ed.), *The Impact of International Trade and Investment on Employment* (Washington DC, US Department of Labor, 1978), as quoted in de Melo and Tarr (1990).

largely rebounded since 1996 suggests that the adjustment process lasted about seven years. During this adjustment process many workers moved to high-end manufacturing jobs, while at the same time there were dramatic productivity increases in low-end manufactures.²³ Both aspects reflect important long-run efficiency gains from trade.²⁴

Bentivogli and Pagano (1999) analyzed the effects of trade with the newly industrialized Asian economies on the labor markets of Germany, France, Italy and the United Kingdom. The analysis confirms that, despite the growing importance of this trade, problems in the European labor market cannot be explained by the increase in imports of manufactures from the Asian countries. In particular, the authors find that workers' personal characteristics (gender and education) are significantly more important than exposure to import competition in explaining unemployment.

Empirical evidence suggests that short-term increases in unemployment are a possible but not a likely consequence of trade liberalization in developing countries

A comprehensive retrospective World Bank study of trade reforms conducted in developing countries found that in eight out of nine countries manufacturing employment was higher during and one year after the liberalization period than before (Papageorgiou et al. 1990).²⁵ Only in Chile did manufacturing employment decrease significantly during and after trade liberalization.²⁶ It has been argued, however, that institutional factors rather than trade liberalization explain this development.²⁷ This view was confirmed by the analysis of Cox Edwards and Edwards (1996), who find that the effects of working experience and schooling outweigh the effects of trade liberalization on a Chilean worker's probability of becoming unemployed, as well as on the duration of unemployment.

Milner and Wright (1998) investigated labor market responses to trade liberalization in Mauritius. They show that manufacturing employment increased significantly in the period following the 1983 trade liberalization. Though employment increases in the long-run exceeded those that occurred immediately after the trade liberalization, the short-run impacts on employment were significant and positive. Rama (1994), in contrast, finds a negative effect of trade liberalization on employment in his analysis of trade policy reform in Uruguay in the late 1970s and early 1980s. Further evidence on developing countries is given by Harrison and Revenga (1995) in a study cited by Matusz and Tarr (1999).

They find evidence of increases in manufacturing employment following trade liberalization periods in Costa Rica, Peru and Uruguay. The other three countries in the cited sample are transitional economies (Czechoslovakia, Poland and Romania) where employment fell during the transition period. As the authors note, however, those three countries were also undergoing other significant reforms that went well beyond trade liberalization.

D. Results and open questions: why are adjustment costs a matter of concern for policy makers?

The studies reviewed above point to the conclusion that adjustment costs are very likely to be small compared to the gains from trade. Why is it then that adjustment is considered to be an important problem in the eyes of so many policy makers, especially in developing countries and transition economies? There are three possible explanations:

- The studies discussed above may underestimate the size of adjustment costs. Indeed, measures of adjustment costs in existing empirical work are crude and imprecise, which raises the question of the robustness of results obtained. Section IV will therefore give more detailed insights into the sources and measures of adjustment costs. Yet, at the same time, it is also possible that existing evidence overestimates adjustment costs. Note for instance that the evidence presented in subsection C gives at the best only weak support to the idea that trade liberalization leads to temporary increases in unemployment. Yet the empirical studies discussed in subsection B all assume that this is the case. The results presented in a recent paper by Davidson and Matusz (2000) raise further doubts as they seem to put into question the methodologies used so far in empirical studies.²⁸
- Another issue of concern with the empirical evidence on the size of adjustment costs presented so far is that it is restricted to industrialized countries. It is a priori not clear whether it is representative for the case of other countries. Indeed, Section IV will show that a country's institutional setting and the functioning of domestic markets will affect the size of adjustment costs. It will give us an idea of the extent to which the empirical results for industrialized countries can be extrapolated to developing countries. It will also show us how far domestic policies can be applied to keep adjustment costs as low as possible.

²³ Total factor productivity was increased by a compounded annual rate of 1.0 per cent in those industries that experienced the largest tariff cuts.

²⁴ Note also that Trefler (2001) finds increases in workers' annual earnings and that these increases are significantly higher in those industries that cut tariff rates most.

²⁵ The study analyses thirteen liberalization periods in the following nine countries: Argentina (1967-70) and (1976-80), Brazil (1965-73), Chile (1974-81), Korea (1978-79), Peru (1979-80), Philippine (1969-65) and (1979-74), Singapore (1968-73), Sri Lanka (1968-70) and (1977-79), Turkey (1970-73) and (1980-84).

²⁶ Revenga (1995) finds that reductions in the quota coverage and in tariff levels in Mexico for the 1984-90 period can be associated with moderate reductions in firm-level employment. Due to the study's focus on firm-level employment instead of total employment its results can only be taken as indirect evidence of the possible existence of adjustment costs in the case of Mexico.

²⁷ See also Box V.2 in this study.

²⁸ The study by Davidson and Matusz (2000) focuses on the effects of labor market flexibility on adjustment to trade liberalization in a country with a comparative advantage in a "high tech" sector. Its aim and set-up thus differ significantly from the papers discussed so far. The paper's simulations are based on a two sector model, where trade liberalization leads to an immediate decrease in employment as workers move into training in order to obtain the necessary skills for the high tech sector. After training workers will spend an average period of unemployment of 6 months before finding a job in the new sector. In this set-up the discounted value of adjustment losses will correspond to more than 80 per cent of the discounted benefits from trade and the net gains from trade correspond only to 0.02 per cent of the economy's income.

- Political economy considerations play a role, in particular the well known fact that while the gains from trade liberalization often are spread thinly across the economy, the adjustment costs tend to be focused on particular groups of workers, entrepreneurs and owners. In other words, adjustment costs that are very small for the economy as a whole can be very large for particular groups, giving those groups a strong incentive to organize, lobby and otherwise apply political pressure to maintain protection. A related problem is that political leaders know that the workers who would lose their

jobs as a result of trade liberalization are aware of this (and thus are unlikely to vote for them in the next election), while the workers who get the new jobs in the expanding export sector are unlikely to link the existence of those jobs to trade liberalization (and thus are unlikely to reward the political leaders by voting for them). This raises the question whether governments should assist affected persons and whether they should do this in order to facilitate adjustment, for distributive reasons or for political reasons. Sections IV and V take up these questions.

IV. Why it is important to distinguish between adjustment effects and other income effects of trade reform

It has been pointed out above that adjustment to trade reform can take two forms. First, companies are forced to reduce production and some or all of their workers and capital become temporarily unemployed. Second, companies—either export-oriented or import-competing facing new competition—try to enhance their competitiveness in the face of new competitive pressure. Economists typically only refer to the first situation when speaking about adjustment to trade liberalization. The investment decisions of exporting firms that wish to expand production or import competing firms trying to regain competitiveness tend not to be treated as an “adjustment” problem. Indeed, government interventions aimed at influencing investment decisions of firms tend to be treated as issues of industrial policy rather than adjustment to trade.²⁹

However, policy makers use policy instruments meant to facilitate “adjustment” in both situations: when companies

reduce production and production factors must be relocated, and when companies try to enhance their competitiveness. Adjustment plans presented in the context of safeguard measures under WTO agreements for instance in many cases refer to companies’ efforts to improve competitiveness.³⁰ Domestic adjustment assistance often tends to have both components, assistance to displaced workers and assistance to companies.³¹

Both components have therefore been included in the discussions presented in this Section. While Section A presents the case of workers moving from a shrinking industry to an expanding one, Section B will discuss the issue of companies adjusting in order to “survive” foreign competition or to expand exports.³² A third section notes that because workers and firms facing adjustment costs often resist trade liberalization, policy makers may wish to take this into account when designing domestic policies.³³

Box IV.1: US Trade Adjustment Assistance Program

The US Trade Adjustment Assistance Program is the only adjustment program which is specifically targeted at trade-induced adjustment problems and which is not limited to particular sectors or regions. It is subdivided into two elements: “Trade Adjustment Assistance to displaced workers” and “Trade Adjustment Assistance to firms and industries”.

The objective of the worker assistance program is to reduce temporary adjustment costs, not to compensate for permanent income losses. The TAA Program provides aid to workers who lose their jobs or whose hours of work and wages are reduced as a result of increased imports. It offers a variety of benefits and reemployment services to assist unemployed workers prepare for and obtain suitable employment.

The objective of the TAA firm assistance program is to help manufacturers and producers injured by increased imports prepare and implement strategies to guide their economic recovery. It does this by providing technical assistance to trade-impacted firms.

The worker assistance program is by far more important than the firms assistance program. In 1997, the former expended US\$ 280 million for assistance to workers while expenditures on the firms program amounted to US\$ 8.5 million.³⁴ Corresponding figures for 1991 were US\$ 115.7 million for workers and around US\$ 10 million for firms. NAFTA-Related Assistance to workers in 1997 amounted to US\$ 49 million.

It has recently been suggested that assistance to trade-impacted workers should include compensation for permanent income losses. A wage insurance scheme has therefore been proposed as an alternative to TAA for displaced workers.³⁵ This wage insurance scheme would entitle eligible workers to receive some fraction of their wage loss for a limited number of years following the initial date of job loss.

²⁹ Industrial policy is an attempt by a government to shift the allocation of resources to promote economic growth (Krugman and Obstfeld (1991)), whereas this chapter focuses on government attempts to assist companies in an adjustment process. The aims of government policy is thus rather different in the two cases, but we will see that the tools available to governments are very similar in both cases.

³⁰ See the cases for the Brazilian toy industry and US lamb.

³¹ See, for instance, Boxes IV.1 and IV.2.

³² For presentational reasons we chose to consider capital as being a production factor belonging to the firm. Issues related to adjustment of capital will thus be treated in Section B, where we discuss the challenges firms face when trying to adjust.

³³ When reading this Section, one should take into account that the type of adjustment process triggered by trade liberalization can also be evoked by changes in comparative advantage in an already open economy. A country’s comparative advantage can change for several reasons, including technological progress or changes in the availability of certain production factors. The invention of synthetic rubber, for instance, brought a whole range of new rubber producers into the market, to the disadvantage of traditional rubber exporters. Trade-induced adjustment thus not only occurs in periods of liberalization, but remains an issue in already open economies.

³⁴ See ITC, The Year in Trade 1997.

³⁵ See Burtless et al. (1998), Kletzer and Litan (2001) and an article by Robert Litan and Allan Mendelwitz in the Financial Times of March 1, 2001: “Finding a New Deal for America”.

Box IV.2: Adjustment assistance in Chile, Costa Rica and Mauritius

Chile³⁶

Chile's National training and Employment Service (SENCE) has implemented two programmes to support the movement of labour. One programme, began in 1990 to assist displaced labour throughout the country and is managed by the municipalities. The second programme, begun in 1995, assists workers in the coal, textiles and clothing sectors. Chile also has special programmes, such as the Technical Assistance Fund (FAT) and Development Projects (PROFO) to assist small and medium-sized enterprises. These programmes are intended to assist such enterprises, in all sectors of the economy, to adopt more efficient managerial and marketing techniques, and more up-to-date technology.

Costa Rica³⁷

Credit programmes operated exclusively by State-owned banks provide loans with alleviated guarantee, documentation and procedural conditions for small manufacturing firms. These loans are directed to companies presenting proposals aimed at raising their productivity, quality and competitiveness. In 1993, loans amounting to some US\$ 30 million (about 27 per cent less than requested) were approved for 54 firms, located mainly in the San José Greater Metropolitan Area. These firms were involved in the production of foodstuffs, beverages, chemicals, clothing, paper and leather articles or in the processing of wood, minerals and metals.

Mauritius³⁸

A Technology Diffusion Scheme was introduced in Mauritius in 1994. The programme, managed by a private contractor, is designed to offset the initial costs to the private sector of acquiring technology support services to improve productivity, product quality, design or manufacturing response time. Costs are to be shared equally by the Government and the private sector.

A. Workers and adjustment

Much of what has been said and written about the effects of trade and trade liberalization on wages focuses on the long-term effects on wages, and not on the short-term effects of the adjustment costs associated with trade reform. For the policymaker, it is important to distinguish between the two, as they raise different issues for government intervention. The size of the transitional adjustment costs is related to the speed and efficiency of the adjustment process, and can influence the level of political resistance to trade policy reform.³⁹ Government intervention designed to reduce adjustment costs would thus take place primarily for efficiency or political reasons. In contrast, the long-term effects of trade liberalization may lead to changes in the distribution of income among different groups of workers. If there is a risk of a relatively permanent increase in inequality within the country, policy makers may consider intervening for equity reasons. As we will see below, the nature of the needed government intervention is very different in these two cases.

1. How are workers affected by adjustment costs

Adjustment costs can appear in many different forms to a worker who leaves a shrinking industry to find a new job in another, growing industry:

- costs related to finding and taking up a new job (travel costs, moving costs);

- loss of income during the transition from the old job to the new one (unemployment benefits and/or temporary employment obviously help, but seldom replace 100% of the former wage); and
- costs related to obtaining the skills needed for the new job.⁴⁰

A variety of factors can influence the size of these costs. For example, if the economy is booming and the unemployment rate is low, finding and getting started at a new job can occur fairly quickly, and vice versa if the economy is stagnant or in recession and the unemployment rate high. If the declining industry was a major employer in the area and the displaced workers have to move to another region in order to find work, the costs of finding and taking up a new job are bound to be higher than if a new job can be found in the same area. For workers who already have considerable skills, the third category of costs may be nonexistent. A worker close to retirement may not find it worthwhile to invest in retraining, while his colleague in his early twenties may find it very worthwhile.⁴¹ And so forth.

Though different types of adjustment costs exist, they will all affect workers concerned in a similar way.⁴² Facing deteriorating working conditions and an uncertain future in their current employment in an import competing industry, we would expect workers to be eager to leave that industry and to find employment in expanding exporting industries. Yet, if this change in job implies temporary unemployment and/or expenses for training or job

³⁶ World Trade Organization (1997): Trade Policy Review, Chile 1997, Geneva.

³⁷ World Trade Organization (1995): Trade Policy Review, Costa Rica 1995, Geneva.

³⁸ World Trade Organization (1995): Trade Policy Review, Mauritius 1995, Geneva.

³⁹ Though equity effects of adjustment costs cannot be excluded, as the next Subsection shows.

⁴⁰ Sometimes companies that hire new workers supply training themselves. In that case, workers tend to pay indirectly for this training through lower wages during the initial period of their employment.

⁴¹ This would imply that the age structure in the industries suffering from import competition will affect the extent to which adjustment takes place in the economy. This in turn would have an impact on the wage difference prevailing in exporting and importing industries at the end of the adjustment process.

⁴² See for instance Leamer (1980) for a demonstration of the correspondence between temporary unemployment and losses in sector specific skills.

search, the decision to leave a current employment becomes less obvious.⁴³ It turns, in fact, into an investment decision. Immediate costs in terms of income losses or expenses have to be traded off against the benefits of a better-paid future job in the exporting industry.⁴⁴

Adjustment may take time, in which case workers may have to bear costs before any gains from adjustment are attained

The time aspect of the adjustment decision in principle does not change any of the aspects of adjustment discussed so far in this section.⁴⁵ But it indicates that for some trade-displaced workers adjustment may imply some periods of hardship. If the reduction in income is such that ongoing expenses for food, clothing, housing etc. cannot be met, workers concerned would have to borrow money if they do not have any savings. It will be difficult for unemployed people to obtain loans to cover current expenses for living, the more so for those who cannot provide collateral. Workers who cannot rely on their own funds to sustain them during a period of lower income or without income may tend to stick to their current job rather than look for more profitable employment in expanding industries.⁴⁶

It cannot be excluded that certain trade-displaced workers will end up earning lower wages in their new jobs than in their previous jobs and for those workers this is a loss related to trade reform. This wage difference will mainly stem from the fact that their work is valued differently in the new job than in the old job. It is not linked to the adjustment process in itself, but rather, to the long-term distributional effects of trade liberalization.⁴⁷ Indeed, even if adjustment costs were zero, those wage differences would continue to exist.

A low skilled worker, especially in a developed country, is more likely to have to take a permanent pay cut in his or her new job because increased trade decreases the long-run demand for unskilled workers and thus their wages (the rich countries generally have a comparative advantage in goods and services whose production is skill intensive, which means they import goods and services whose production uses unskilled and low-skill labour). They are therefore hit twice by the economy's move to freer trade—once by having to pay the transitional adjustment costs and once because they suffer from the long-term distributional consequences of increased trade.

Certain highly skilled workers can be affected by a similar process. A worker whose skill is one which is highly specialized and specific to an import-competing industry which is under pressure from increased imports—that is, the skill in question is

not transferable to other firms or industries—may have to “write off” the human capital associated with that industry-specific skill. In plain words, the wage which that skill can command may decline substantially if the industry in question declines substantially. The same will be the case for wage premiums received as a result of seniority and/or union power.

Adjustment costs drive a wedge between factors in the import competing sector and the same factors in the exporting sector, making the former relatively worse off

An important difference between the long-run and the short-run (adjustment costs) effects on workers' wages is that they are distributed differently across the working population. The long-run effects tend to affect certain types of workers—in particular workers of certain skill levels—across the economy. Adjustment costs instead will be concentrated among the workers employed in import competing industries, independent of their skill level. If a country's textile industry declines, both engineers and shop-floor workers employed in that industry may lose their jobs and be temporarily unemployed.

With respect to the economy's wage pattern, adjustment costs will have the effect of driving a wedge between wages in exporting industries and those in import competing industries, independently of the type of workers involved.⁴⁸ Indeed, workers in a declining industry may try to cling to their present job if the wage of potential new jobs doesn't at least compensate for the adjustment costs they have to incur. As a consequence wages in the exporting industry will have to be higher than in the import competing industry in order to attract workers. Graph IV.1 illustrates this argument. Adjustment costs may thus affect income distribution within a country. This may be a matter of concern in countries where the long-term income effects of trade lead to a widening of existing income gaps.⁴⁹

2. Empirical evidence on the losses suffered by displaced workers

Workers displaced by trade liberalization may suffer both from temporary adjustment costs and from permanent wage reductions, which are difficult to distinguish empirically

As has been noted, workers displaced by trade liberalization may suffer both from temporary adjustment costs and from permanent wage reductions. As is evident from the following survey of empirical work in the area, it can be difficult to distinguish empirically between these two type of adjustment costs.

⁴³ Depending on how the labor market functions, workers may not even have a real choice of leaving and are instead forced to do so. This may for instance be the case when minimum wages do not allow wages to adjust to the new equilibrium and cause companies to lay-off workers. This situation will be treated in Section V.

⁴⁴ The same thing may happen to companies that adjust. For example all the companies in Box IV.4 went through several periods of losses until their “adjustment plan” paid off in the terms of profits that eventually exceeded the initial investment.

⁴⁵ Compare Section B and C in the Technical Annex.

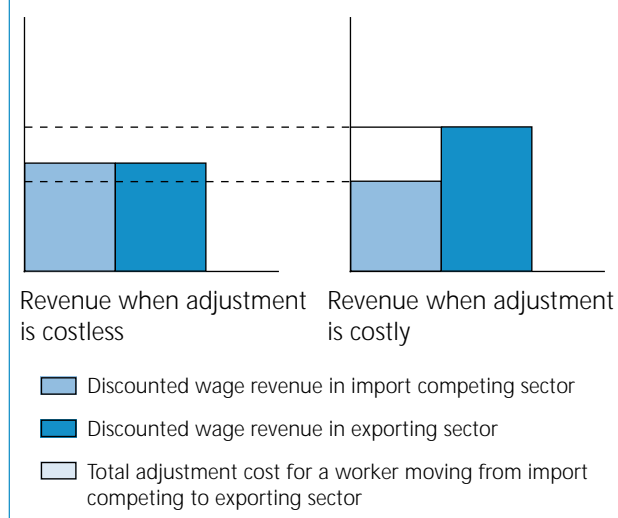
⁴⁶ Social safety nets, in the form of unemployment benefits for instance, help out in these kinds of situations. This issue will be dealt with in more detail in the next Section.

⁴⁷ See for instance Cline (1997) for a survey on the impact on trade on wage inequality. The overall impression that arises from this literature is that trade does affect wage inequality, but in a relatively minor manner, and far less so than technological change.

⁴⁸ How important this wedge is not only depends on the size of adjustment costs, but also on the time horizon taken into account in the adjustment process. The longer this time horizon, the bigger the future gains from working in the exporting industry and the more people will be willing to leave the import competing sector. The larger the inflow of workers into the exporting industry the closer wages there will end up being to wages in import competing sectors. The Technical Annex provides more detailed information about the role of the time horizon.

⁴⁹ See Section B and C in the Technical Annex for more detail.

Graph IV.1 : Workers' revenues in different industries



Long-term wage losses do not fall under the concept of adjustment costs as it is used in this Special Study.⁵⁰ Indeed, workers would suffer these losses even if changing jobs were instantaneous and frictionless. Affected workers, though, will not bother much about this distinction. Wage losses and adjustment costs will both represent reasons for them to oppose trade liberalization. For policy makers, on the other hand, it may be important to have a notion of the size of permanent wage losses compared to adjustment costs. In particular, government programs aimed at reducing adjustment costs for displaced workers, may not be successful in reducing the opposition to trade reform, especially if concerned workers also suffer significant long term wage losses not taken into account in the adjustment program.⁵¹

Displaced workers are likely to go through significant spells of unemployment

The duration of unemployment and the expenses for training are important determinants of the adjustment costs incurred when changing jobs. The studies discussed in Section III made assumptions with regards to the first variable in order to calculate the costs of adjustment for the economy as a whole. Magee (1972) assumed that the duration of unemployment for workers released from the import-competing sector would be higher than the roughly 10 weeks known to be the average duration of unemployment in the US at the time. He therefore used a duration of unemployment of 16 weeks for his calculations.

This is significantly lower than the average duration of unemployment Bale (1976) found when interviewing US workers displaced as a result of trade liberalization in 1969-1970. On

average, import-impacted workers who were actively in the labor force at the time of the interview (1972) had been unemployed for 31 weeks.⁵² Richardson (1982), analyzing a 1979 survey of workers who were recipients of US Trade Adjustment Assistance in 1976, found 42 weeks as the mean duration of the first unemployment spell suffered by permanently displaced workers in this sample.

The World Bank commissioned research into the effects of public sector downsizing in a range of transition and developing countries. Though privatization, rather than trade liberalization, was the reason for displacement in these cases, the adjustment problems faced by the workers concerned can be indicative for potential adjustment costs for workers whose jobs are threatened by increased imports.

When Tansel (1998) interviewed workers who lost their jobs as a result of the privatization of the state cement and petrochemical industry in Turkey, he found an average period of unemployment of 6.6 months among the self employed and 9.1 months among wage earners. According to Rama and Maclsaac (1999), the quality rather than quantity of new jobs seems to have been the problem for displaced employees of the Central Bank of Ecuador: the unemployment rate, measured as the displaced employees who were unemployed as a proportion of those who either had a job or were actively searching for one, never exceeded 15 per cent, and was down to 10 per cent six months after separation. More than half of the sample of interviewees had moved into self-employment within one year of losing their jobs. Partly as a result of this, less than a quarter of the interviewees were covered by social security, and barely 5 per cent of those were unionized six months after separation.

There is little evidence on the size of the costs involved in the (re-)training of new employees. A large firm in the pharmaceutical industry and based in an industrialised country estimated that the present value of the cost of replacing one worker amounted to roughly twice that worker's annual salary.⁵³ The figures for less-skilled jobs are less dramatic. One study estimated that the cost of replacing a truck driver amounted to slightly less than half of that worker's annual pay. The lowest estimate of turnover costs reported in a study by Hamermesh (1993) appears to be about three weeks worth of salary.⁵⁴

Re-employed displaced workers suffer significant wage losses. These losses may be permanent for workers with high levels of tenure in their previous job

On the question of the size of earning losses after displacement, Kletzer (1998) summarizes recent findings on the consequences of job loss in the United States. Analysis of the US Displaced Workers Survey covering the years 1981-1995 reveals that re-employment probabilities of displaced workers are noticeably cyclical and that re-employed workers suffer significant

⁵⁰ Note that our approach differs from the approach taken in other studies (see for instance Matusz and Tarr (1999)), where long-term wage losses fall under the concept of "private adjustment costs". As these long-term wage losses do not represent a loss for society they are not included in the so-called "social adjustment costs". As a consequence the relevant studies conclude that "private adjustment costs" tend to be larger than "social adjustment costs".

⁵¹ See also the Subsection C on resistance against trade liberalization.

⁵² Baldwin, Mutti and Richardson (1980), discussed in Section III, use Bale's results for their calculations of welfare effects of tariff reductions for the US economy.

⁵³ Davidson and Matusz (2000).

⁵⁴ Hamermesh (1993) as quoted in Davidson and Matusz (2000).

earnings losses in the short-term.⁵⁵ Over the period 1981-95, real weekly post-displacement earnings were 13 per cent lower than pre-displacement earnings. This loss is partly due to the inability of displaced workers to find a new full-time job and thus reflects a decrease in the hours worked in the new employment. When focusing on a sub-sample of workers displaced from and re-employed in full-time jobs, earnings losses are however still a sizeable 9 per cent.⁵⁶ This figure is close to the figure quoted in Richardson (1982), who finds earnings losses of 8 per cent for workers permanently displaced as a consequence of increased competition from imports.

Jacobson, Lalonde and Sullivan (1993) focus on high-tenure workers when analyzing the long-term earnings of workers displaced as a consequence of mass lay-offs in Pennsylvania from 1974-1986.⁵⁷ High tenure makes it more likely that a displaced individual is locked into firm-specific or job-specific skills. They find that earnings losses of high tenure, prime-age workers are substantial and persistent. Even six years after their separations, their quarterly earnings remain 25 per cent below their pre-displacement earnings. Because the estimated losses do not decline significantly after the third year following their separations, there is little evidence indicating that displaced workers' earnings will ever return to prior levels. Kletzer (1998) quotes similar results from a study in California, with earnings losses of the order of 17 to 25 per cent for "mass layoffs separators".⁵⁸ Stevens (1997), in a study based on a national sample of experienced displaced workers, finds a fall in annual earnings of 15 per cent for the first year after displacement with earnings remaining 6 to 12 per cent below previous levels seven or more years after displacement.⁵⁹

There is little evidence on whether the cause of displacement affects future earnings

There is little evidence on whether the reason for displacement affects future earnings. From the studies on earnings losses quoted so far only Richardson (1982) provides separate figures for import-impacted displaced workers. He compares his figures with comparable figures for other displaced workers and finds significant differences. Even three or four years after separation import-impacted, permanently displaced men have 10 per cent lower incomes than in their previous job, whereas incomes of comparable Unemployment Insurance recipients are 20 per cent higher. Yet his analysis does not reveal the reasons for this difference. In particular, the difference cannot be explained by differences in permanence of layoff, industry of original employment, age, experience or the socioeconomic status of workers.

It has been suggested that skills may have a significant industry-specific component and that earnings losses should thus be higher for workers moving between industries than those

moving within industries. If trade is more likely than other macroeconomic factors to affect whole industries negatively, this could explain why workers displaced because of import competition suffer higher earnings losses. With respect to this, Jacobson, LaLonde and Sullivan (1993) find that manufacturing earnings losses depend crucially on whether workers obtain new jobs in the manufacturing sector. However, for those who found new jobs in the manufacturing sector it does not appear to matter whether they found a job in their old four-digit SIC industry or in a different industry. Alternatively, Haynes et al. (2000) in their analysis of the UK New Earnings Survey Panel Dataset fail to find compelling evidence that the wage costs of moving between industries are larger than those of moving within industries.⁶⁰

Evidence of the effects of employment on wages in transition and developing economies is mixed. While wage losses of 50% and more have been found in some cases, other studies report wage increases after displacement

Another question is whether the findings for the US, and to a lesser extent Western Europe, can be extrapolated to other countries and, in particular, to transition and developing economies. As in the case of unemployment duration, the only evidence known to us is that referring to displaced workers as a result of public sector downsizing. Tansel (1998) finds average earnings losses of 66 per cent for workers displaced from the previously state-owned cement and petrochemicals industry in Turkey. Alderman et al. (1995) find that displaced Ghanian civil servants lost about 48 per cent of their earnings before separation, a figure close to the 45 per cent loss in earnings reported in Rama and Maclsaac's (1999) study of displaced Central Bank employees in Ecuador.

Mills and Sahn (1995) depict a more positive picture in their study of public sector downsizing in Guinea. They find that, for those able to find other employment, average real earnings of displaced employees were double their previous levels in the public sector. Gains were higher for those who moved into wage employment than for those who moved into non-wage employment. The former, though, also went through longer unemployment spells, with only 38 per cent of workers finding employment within one year and 43 per cent within two years, whereas the corresponding figures for those taking non-wage employment were 51 and 70 per cent. Orazem et al. (1995) analyzed post-displacement employment and wages in Slovenia for the period of 1989-1992, a period in which more than 11 per cent of the Slovenian workforce became displaced. Only 33 per cent of them were re-employed within the same period and after having gone through a period of unemployment of 13 weeks for the median worker. Yet nearly 70 per cent of re-employed workers enjoyed equal or higher wages in their new jobs and wage growth for the median re-employed worker was 16.5 per cent.

⁵⁵ In this survey "displaced workers" are understood to be individuals with established work histories, involuntarily separated from their jobs by mass layoff or plant closure (rather than because of individual job performance), who have little chance of being recalled to jobs with their old employer. Increased competition from imports is only one of the possible reasons for those mass layoffs or plant closures.

⁵⁶ This figure is based on the whole sample of displaced workers included in the Survey. The average job tenure for this sample is around four years, with 58 per cent of the workers reporting job tenures of less than three years.

⁵⁷ Workers had six or more years of tenure before displacement.

⁵⁸ The quotation is based on Robert F. Schoeni and Michael Dardia: "Wage Losses of Displaced Workers in the 1990s", RAND, September 1996.

⁵⁹ As quoted in Kletzer (1998).

⁶⁰ Their analysis is however not restricted to displaced workers. Indeed, in their sample wage changes for movers are almost always positive and greater than wage changes for stayers, which leads the authors to the suggestion that the majority of job changes included in the sample are quits rather than layoffs.

With the exception of the study by Haynes et al. (2000), the above evidence is based on surveys or databases of displaced workers. It therefore does not provide any information on workers that quit voluntarily. Yet it is not unlikely that in a declining company/industry, those workers with the best re-employment and future income perspectives will quit before they are laid-off by their employer. The picture depicted above is thus not necessarily representative of all the workers in an industry affected by import competition, but is biased towards those with more significant adjustment problems. It shows that displaced workers on average suffer important spells of unemployment and significant income losses, at least in the short run. Long-term income losses can also be significant, in particular for workers with firm/sector specific skills and/or high levels of tenure in their previous employment.

B. Firms and adjustment

So far we have discussed the concept of adjustment only in the context of workers moving from one job to another as a consequence of plant shrinkage or closure in import competing industries. But in certain situations it is possible that firms' adjustment in those industries takes another form. Sometimes it is possible for them to raise competitiveness and survive. This may involve reducing the number of workers, but not necessarily. In fact some firms may even grow. To the extent that fewer workers have to leave the industry, adjustment by workers could thus be avoided if companies manage to raise competitiveness.

No matter which strategy is chosen, adjustment is likely to take time. Empirical studies of data for US firms estimate that roughly half the adjustment of investment demand to shocks is completed within one year. A similar study on British firms finds that around two-third of the response of investment occurs within one year.⁶¹ Other studies have analyzed changes in firms' employment levels in response to external shocks and come to

very different results. According to the survey presented in Hamermesh and Pfann (1996) between one-sixth (in the case of Spain) and five-sixth (in the case of the US) of the adjustment to a shock is completed within one year.

Firms that attempt to raise competitiveness will typically have to invest in new production technologies to raise cost efficiency or in new product development in order to change the company's position in the market. Yet the question is why those investments should be necessary as a consequence of trade liberalization and why they have not been made before. Firms that are operating in a competitive market should constantly be under pressure to use more efficient production technologies or to find the most profitable product niche. In that situation the fact that trade is liberalized should not change much about a firm's competitive position and should not create the need for extra investments.

Yet in a restricted number of situations, trade liberalization may change a firm's competitive environment and there is scope for profitable adjustment by firms. This may, for instance, be the case if the domestic market was not competitive prior to trade liberalization. Another example is when production technologies only become available because of contact with foreign products/technologies. Yet another situation is the one in which companies are competing in differentiated products, for instance products that differ in quality. The entry of foreign competitors and the opening up of a foreign market may then change the profitability of certain product specifications and make investment in new products a profitable option.

Economists' lack of attention to the adjustment of firms to trade reform is linked to the emphasis they have been putting on the traditional trade model, which assumes perfect competition and the availability of the most efficient production technology to everybody. The competitive environment then ensures that the most efficient technology is indeed applied. The latter is not necessarily the case if the relevant market was not competitive

Box. IV.3: Cashew processing in Mozambique

The following describes the process of decline in Mozambique's cashew processing industry. It is possible to interpret this case-study as one of the decline of a clearly non-competitive industry. Alternatively, one could argue that it is an example of failed adjustment to trade liberalization by a potentially competitive industry not accustomed to operating in a competitive environment.

By the end of the civil war in 1992, Mozambique's marketed production of raw cashew nuts had dropped dramatically and the cashew processing industry was badly damaged. Around 80 per cent of the domestic processing industry was under government control. As early as 1978, the government had provided protection to the industry by placing restrictions on the export of raw cashew nuts. In 1992, a regime was in place that permitted limited exports of raw nuts subject to a 60 per cent tax. During the years of civil war and government protection the processing industry had failed to keep pace with international changes in the industry. Using outdated technology and poor management practices, it was too inefficient in the early nineties to be viable at world prices for raw nuts.

The decision was taken to liberalize and privatize the cashew industry, with the government favoring privatization followed by the phased elimination of the export tax. In 1995, the processing plants were privatized and the state monopoly was eliminated. Yet restrictions on the exports of raw cashew nuts remained in place. Following the advice of international institutions, the government lowered export taxes in 1995/96 to 20 per cent and a year later to 14 per cent. Newly privatized processors opposed this policy with the argument that they had been promised protection long enough to modernize factories which everyone agreed were inefficient and out of date.

In 1997 the processing industry started a steep decline and by January 2001, 8,500 of the previously 10,000 workers employed in the processing industry had lost their jobs.

Source: www.iatp.org

⁶¹ As cited in Hamermesh and Pfann (1996).

in autarky. If in addition the government intervened in the functioning of the market, for instance through regulation, it may have been virtually impossible for companies to employ the most efficient technologies.⁶²

Firms that were not functioning in a competitive environment under autarky may find it profitable to invest in new technologies when trade is liberalized

In many countries, sectors like telecommunications, public transport and banking have traditionally been run by monopolies and/or under heavy regulation by the government. While in some countries, these sectors have progressively been submitted to increased competition, in others the situation has not changed. In the banking sector, for instance, regulation may take the form of government fixed interest rates, fees and commissions, restrictions on the entry and exit of banks and restrictions related to the activities carried out by existing banks. Banks operating in such an environment are not accustomed to choosing activities

in order to maximize profits and are not used to dealing with variable prices (i.e. interest rates, fees, commissions). If confronted with foreign banks that are used to act in a competitive environment, they would probably have difficulties to survive unless they adjust. Introduction of new technologies and appropriate training, for instance, would bring them a long way to be able to survive in a competitive environment, in which foreign companies are also operating. Yet this would require investment and probably time. In other words, companies would need to go through an adjustment process. See Box IV.4 for an example of a sector that is considered to have gone very successfully through such an adjustment process.

If the technology used by foreign competitors becomes available only after trade liberalization, firms may find it profitable to invest in new technologies when trade is liberalized

Another reason why domestic companies are not operating as efficiently as they might could be that they simply do not have

Box IV.4: Successful adjustment in the Spanish Banking Sector

Although the Spanish Banking System can be considered a competitive sector today, the situation was completely different twenty years ago when it was subject to strict regulations, which affected interest rates, fees, commissions and branching and involved limits on the range and type of activities that financial institutions could perform and on the entry of new competitors. The result of this regulatory framework was a lack of competitive pressure which led to a lack of innovative processes being pushed forward by private initiative.

This panorama has changed substantially over the past decades due to the opening to European competition and the impact brought about by European Directives and the Single Market Program (SMP). The Single Market Program increased the scope for foreign competition within the EU as it removed important barriers to trade in financial services. Major steps occurred in 1993 with the introduction of the "single passport" for financial institutions and the removal of exchange controls. The "single passport" meant that any credit institution authorised to conduct financial activities in its home country was allowed to conduct the same activities in any other member state. The directive thus allowed free foreign competition within the EU. The removal of exchange controls meant funds could be moved, or borrowed abroad to take advantage of banking services provided. Given the internal domestic distortions in countries like Spain, intense foreign competition could have strained their domestic banking sectors, possibly even leading to bank failures and macroeconomic instability.

Aided by a favorable macroeconomic environment, Spain embarked on a major deregulation process before the introduction of the "single passport" in order to prepare domestic companies for foreign competition by increasing their own competitiveness. Among the most important reforms in the late eighties were the elimination of most legal differences between commercial and savings banks; the deregulation of interest rates; and the harmonization of prudential regulation with those in the EU, which took place in 1989. These reforms implied that banks had to function in a more competitive environment with flexible prices and the possibility of exit of existing banks and the entry of new domestic banks. Besides, banks were aware that the introduction of the "single passport" in 1993 would make it possible for foreign companies to enter the market. By that time, however, the Spanish banking sector had already adjusted to the new situation and it is generally accepted that it had done so in a very successful way.

The increase in competition led to major efforts by banks to reduce operational costs. At the same time, there was an attempt to increase the switching costs for consumers, which led to an expansion in the number of branches and an increase in the quality of services. Interest margins decreased significantly, showing that consumers have largely benefited from the changes. Though foreign banks did enter the market as a consequence of the SMP, entry was not massive and it was more important in numbers than in size. Foreign banks also tended to focus on particular market segments where they often did not compete with domestic firms. Employment in the Spanish banking sector actually expanded and the Spanish banking system is today considered to be very healthy in terms of capitalization, profitability, quality of service, stability and competitiveness. Besides, Spanish banks expanded their activities to foreign markets, in particular in Latin America. Without the deepening of the liberalisation process, the international expansion of Spanish banks would probably not have happened.

Based on Pastor et al. (2000) and Vives (2000).

⁶² Placing ourselves in a Heckscher-Ohlin framework, we are assuming that an investment would allow the import competing sector to increase its productivity, which would imply an outward shift of the economy's production possibility frontier. Note that this situation is in a certain sense related to the one treated in the so-called "infant industry case".

access to the newest technologies. In the late seventies, for instance, Japanese companies very successfully entered several American product markets because they supplied comparable goods at lower prices than their American competitors. In some cases they were able to do so because of significantly lower production costs, thanks to the introduction of “just in time delivery.”⁶³ In reaction to this, many American suppliers decided to adapt their production process and to make the investments necessary to apply just-in-time delivery themselves.

Firms that are competing in differentiated goods may find it profitable to invest in quality upgrading after trade liberalization

In a situation involving intra-industry trade—that is, trade in differentiated versions of the “same” product—companies typically are not operating in a fully competitive market.⁶⁴ It may then happen that domestic firms facing competition from imports can manage to survive by changing the product variety they produce. This can for instance be the case if companies produce different qualities of goods (vertical product differentiation) and

higher qualities require a higher fixed investment by the company, for instance because more sophisticated machinery is needed.⁶⁵ If companies make their initial investment decision in autarky they choose to produce a quality depending on the size of their market and the tastes of domestic consumers. Trade liberalization changes their working environment in two ways.⁶⁶ The presence of foreign producers will increase competition in the domestic market even if they sell a different quality of the product. At the same time, the absence of trade barriers makes it possible for domestic companies to sell to consumers abroad. In the light of these two effects it may be profitable for the domestic company to change the quality of its products. Quality upgrading could be profitable given the increased size of the market. If the quality improvement increases the difference between the domestic product and the foreign product, the competitive pressure emanating from the foreign product could be reduced. Quality upgrading was, for instance, part of the response of Black and Decker to increased competition by foreign producers (See Box IV.5).⁶⁷

Box IV.5: What do Harley-Davidson, Black and Decker and Caterpillar have in common?

What do Harley-Davidson, Black and Decker and Caterpillar have in common? They are all US-based companies that have faced strong competition from abroad at a certain point in time. As a result, all three companies had to go through a significant adjustment process in order to remain competitive. The following stories speak for themselves.

Harley-Davidson Motor Company, a producer of motorcycles, experienced very tough competition, particularly from Japanese rivals. Faced with a decreasing share of the market and lower profits, it took a number of major steps to increase manufacturing efficiency and reduce costs. For one thing, it phased out many of its machining operations in 1981 and began to purchase its metal from steel service centres, which are companies that supply steel products and provide just-in-time delivery. To some extent, Harley-Davidson thus adopted the same strategy that its Japanese competitors had been applying so successfully. According to Harley-Davidson officials, this program, which became fully operational in 1985, reduced its work-in-process inventory by nearly \$24 million, implying a substantial cost reduction.

Recognising that increased foreign competition was imminent and believing that legal requirements would soon require double insulation of domestic power tools, Black and Decker, a manufacturer of power tools, invested over \$17 million in a program during the 1970s to redesign its product line, simplify its products, reduce production costs, automate production, standardise components, use new materials, raise product performance, and improve quality. The break-even point for the investment project was only reached after seven years but the company generated savings of around \$10 million per year afterwards. The changes helped make Black and Decker's products stronger competitors against products made abroad.

For decades, Caterpillar Tractor Company has been regarded as the world market leader for earth-moving equipment, which is a market dominated by relatively few firms. It makes products of high quality. With regards to its pricing, Caterpillar traditionally charged more than its rivals. In 1981, Lee Morgan, Caterpillar's chairman, compared his firm's prices with those of Komatsu (Caterpillar's leading rival) in the following terms: “Komatsu's products are priced at least ten to fifteen per cent below Caterpillar's. That says clearly what they believe our value is versus theirs.” In the early 1980s, however, the dollar became very strong relative to the Japanese yen. Moreover, the recession in the United States caused Caterpillar's American customers to emphasise its price disadvantage. For these and other reasons, Caterpillar's sales fell by about 29 per cent in 1982, and the company experienced a \$180 million loss. The company felt it had to become more competitive with respect to price. To do so, the firm embarked on a major cost-reduction program, including cuts in blue-collar and white-collar employment. During 1983-84 plans were announced to close six plants. By 1985, the company was back in the black.

Source: *Mansfield (1990)*.

⁶³ Just in time delivery can play an important role in production processes that rely heavily on inputs from external suppliers. Traditionally companies would keep stocks of the relevant inputs which often created high inventory costs. Japanese companies instead introduced a system in which they required suppliers to deliver necessary inputs only when they were needed in the production process, i.e. just in time. In this way, Japanese companies succeeded in significantly reducing their inventory and thus production costs.

⁶⁴ This is also the case in models of strategic trade policy that provide an argument for governments subsidising domestic oligopolistic firms in order for the home country to appropriate the profits that would go to foreign firms in the absence of government intervention. These models typically deal with trade in homogeneous goods (e.g. Brander and Spencer (1985)), which is not the case here.

⁶⁵ See for instance Cabrales and Motta (1996).

⁶⁶ We are considering liberalization at home and abroad.

⁶⁷ See also Brenton et al. (2000) for evidence of product differentiation in imports and exports of shoes in Europe.

Adjustment by exporting companies may imply investments in order to expand

When import-competing industries cannot profitably enhance their competitiveness they will have to reduce production and probably release production factors, including workers. If the shrinkage of import-competing industries is accompanied by an expansion of exporting industries it will be easier for those workers to find new jobs quickly. This expansion on the export side may require its own adjustment process. In many cases, existing and new exporters need to make an initial investment in order to expand their activities in foreign markets.⁶⁸

The costs faced by exporters tend to be different for existing exporters expanding production and for new exporters. If the former were operating at close to full capacity before the (further) liberalization of trade, increasing exports would require new capacity formation. The company would thus consider investing in machinery, additional storage place etc. Existing exporters are therefore likely to face a rather standard investment decision on whether or not to increase production.

Companies may face significant start-up costs upon entering new foreign markets

Evidence indicates that a large share of export expansion takes the form of "new exports", i.e. exports by firms that

previously were only serving the domestic market. Roberts and Tybout (1997) found that in Colombia and Morocco more than half of the total export growth experienced between 1984 and 1991 was based on the activities of new exporters. Entry also contributed to the 1986-1990 export boom in Mexico, but to a much lesser extent. The investment decision for new exporters is likely to be more complex than the corresponding decision by an established exporter to expand production, as the former may involve more variables that are little known to the domestic producer. Market research in the foreign market may for instance be necessary in order to know about foreign prices, product niches and import requirements.⁶⁹ As a result of market research, exporters may want to invest in the redesign of their product or even in the development of a new product. If the company decides to sell directly to foreign buyers it may have to invest in the build-up of a distribution network in the relevant country. In addition, the training of management and other key personal in preparation for the new tasks abroad is likely to be costly. Start-up costs will vary in size and type depending on the country of origin of the exporter, the destination of the exports and the products involved. Box IV.6 shows some results of interviews conducted with Colombian firms on the issue of start-up costs of breaking into foreign markets.

Box IV.6: The Start-up Costs of Becoming an Exporter

A stratified sample of 186 Colombian firms was interviewed in 1990 for the World Bank and the Colombian government's export promotion agency PROEXPO, in order to reveal managerial thinking on the decision to export. What were the views of these firms regarding the startup costs of breaking into foreign markets?

Market research. Among exporters and non-exporters alike, the types of market research considered to be most important for entry were buyer identification and contact, foreign prices, market selection, and standards and testing requirements. Non-exporters also felt that legal advice and assistance were important. Most firms envisioned using, or had actually used, external services, both private (for a fee) and public, to overcome information obstacles. Outside assistance came from brokers and distributors, chambers of commerce, associations of suppliers, and trading companies. Many firms also did their own research, "especially in the areas of foreign market selection, buyer identification and contact, as well as standards and testing requirements."

Product development. Among firms that had already broken into export markets, only one-tenth developed a new product to do so. Two-thirds sold products that they already produced for domestic consumption, and another quarter adapted such products for export. Similarly, among non-exporters, "new product(s) would be developed by only four of the twenty-seven non-exporters interviewed". More than half "of the [non-exporters] indicated that they would initiate exports by selling an existing product. About one-third of [the non-exporting] companies stated that they would adapt an existing product for export sales". Those that did think it was necessary to change their product or develop a new one cited most frequently the need to improve product quality and to adapt its design to foreign markets. In short, product development is by no means a necessary precondition for exporting.

Distribution. For firms that sell directly to foreign buyers, the problem of establishing distribution channels may be substantial—both domestically and internationally. But for a fee, firms can hire third parties to handle distribution and contain this type of start-up cost. Perhaps for that reason, among non-exporters contemplating entry "indirect distribution channels were [envisioned] twice as frequently, as direct channels." Among firms already exporting, however, direct and indirect channels were used equally. Agents and distributors were the dominant mechanisms for indirect distribution; trading companies were unusual.

Learning. After transportation problems, firms viewed customs clearance, Colombia's international reputation and documentation problems as the most important non financial obstacles to exporting. Each of these problems recurs with each shipment, but is moderated to some extent by learning. The efforts that firms invest in educating themselves and their buyers should also be viewed as part of the start-up costs of becoming an exporter.

Source: *First Washington Associates (1991), as cited in Roberts and Tybout (1997).*

⁶⁸ Just as we assumed in Section A that workers need to invest in order to move from the import competing to the exporting industry, we are assuming now that the exporting industry needs to invest in order to absorb more production factors. This type of situation is typically analysed in the industrial policy literature and the reader may want to refer to this literature in order to obtain further insights into the issues involved (See for instance Panagariya (1999)).

⁶⁹ A company specializing in market research in the relevant country can probably carry out this research more cheaply than exporters themselves. Indeed Box IV.6 shows that companies tend to hire external providers of these services, either private or public. One of the justifications for public provision of these services, is that there may be spill-overs from entering a foreign market. This issue will be discussed in Section V.B.

When import surges are only temporary it may be optimal for domestic competitors to “do business as normal” making low profits or even incurring losses

So far we have been looking at the effect of permanent trade liberalization on the economies involved. Such changes would have a permanent effect on the relative supply and demand of the relevant goods in trading economies. But it also happens that the supply or demand of a good changes only temporarily.⁷⁰

Imagine a country hit by a natural catastrophe. It will take the country some time to recover from this catastrophe and during this time significantly less money will be spent on luxury goods, like new cars. If cars are imported, a foreign producer of cars will see his demand decline in the country hit by the catastrophe, but he knows that this is likely to be only a temporary phenomenon. He decides not to reduce production and rather to ship cars to a third country to which he usually does not export, and where he offers the cars at a reduced price. The third country has a domestic car industry that suffers from this sudden and probably temporary surge of imports. Profits of domestic companies go down, they may even face losses, but losses that are presumably temporary.⁷¹ If producers know that the surge in imports is temporary, they may well decide to keep on producing like before and run losses during some periods rather than reduce production or close down completely. In other words, they may want to try and avoid “adjustment”, but the question is whether they can afford to do so.

A recent example of temporary changes in the trading environment are US retaliatory tariffs on EU luxury goods in reaction to the EU’s policy on banana imports. The list of goods on which tariffs apply changed every six months. As a consequence, European exporters and US companies depending on their products knew that they would be only temporarily affected. In many cases they therefore decided to do business “as usual”, but Box IV.7 shows that not all of them could cope.

C. Adjustment costs and resistance against trade liberalization

Policy reforms tend to create both winners and losers within an economy. Not surprisingly, those who lose will tend to be against the relevant reform and, depending on the size of the losses involved, they may try to put pressure on the government to impede

or reverse the policy reform. Trade reform is no exception to this.⁷² It has been pointed out before that consumers are the main beneficiaries of trade liberalization. The benefits of trade liberalization are thus spread over the general population, which makes it difficult to rally the beneficiaries as a lobby group in favor of trade liberalization. When it comes to the losers, it is necessary to distinguish between short-run losses (adjustment costs) and long-run losses. Some people will suffer adjustment costs that are typically temporary and some will suffer losses in the long-run due to the distributional effects of trade reform. These two groups will typically overlap but not be identical. What does this imply for the resistance against trade reform and its chances of success?

Policy makers may want to intervene in the adjustment process in order to mitigate resistance against trade reform

By definition, adjustment costs associated with trade liberalization will tend to be concentrated in those sectors of the economy which compete with imports. Adjustment costs caused by other policy reforms are not necessarily concentrated in a limited number of sectors. A reduction of legal minimum wages, for instance, will affect low income earners across the economy. Also a reduction in government spending will have repercussions in different sections of the economy. Yet, the more concentrated the losers of a reform are within a society, the less costly and the easier it will be for them to join forces against the relevant reform. Thus, even if the nature and size of adjustment costs caused by trade reform may not necessarily differ from the costs caused by other reforms, the concentration of those costs in very specific sections of the economy raises the prospects of well-organized resistance against trade reform.

Many of those losing their jobs in an import competing industry will actually end up finding better paid jobs in exporting sectors. Others, instead, will get lower wages in the long-run. Likewise there will be companies managing to adjust to the new competitive situation, while others will have to shrink or even close down. In other words, while most actors in the import competing sector will have to go through some kind of adjustment process, an important number of them will end up being better off in the long-run. It has been argued, however, that even individuals in this latter group may show resistance to trade liberalization if they do not know in advance whether they will be

Box IV.7: Companies’ reactions to temporary US import tariffs

One of the European companies hit by US retaliatory tariffs was Fiamm Spa, an Italian manufacturer of batteries for telecommunications equipment. The company chose to subsidise its sales to the US rather than lose its 10 per cent to 15 per cent market share in the competitive US market for batteries for “uninterrupted power systems” for telecom equipment. “We didn’t want to lose 10 years of work”, said the chairman of the company. As a result, the company suffered losses of more than €25 million.

Source: *Wall Street Journal*, August 30th 2000.

US importers are also hit by the government’s tariff policy. The tariff has already rung the death knell for Reha Enterprises in Summerville, SC, a small importer of European bath salts. After paying the extra tax for a year, the company owner had to close his business while he was still paying off his tariff debt resulting from the \$52,000 in extra duty he was required to pay.

Source: *Business Week Online*, September 18th 2000.

⁷⁰ See the discussion on safeguards in Section VI.

⁷¹ “Temporary” because the industry is competitive in the long-run, although it is not making profits in the short-run.

⁷² See Rodrik (1995) for an overview of the political economy aspects of trade policy.

among the losers or the winners of trade reform. Fernandez and Rodrik (1991) show that in this situation some of those who would gain from trade liberalization may *ex ante* judge it wiser to lobby against trade reform rather than run the risk of being among those who lose from the change.⁷³ It is argued that this status-quo bias can explain phenomena like those observed in Taiwan and South Korea (early 1960's), Chile (1970's), and Turkey (1980's). In all three cases, reform was imposed by authoritarian regimes and against the wishes of business, even though business emerged as the staunchest defender of outward orientation once the policies were in place.

Adjustment assistance programs designed to facilitate the adjustment process will not mitigate the potential long-term distributional effects of trade

The long-term distributional effects of trade liberalization are likely to create losers across different sectors of the economy. If a country, for instance, imports goods the production of which is intensive in unskilled labor, unskilled workers are going to leave that sector and increase the supply of unskilled labor across the economy. Eventually this can have a negative effect on the wages of unskilled workers in many different sectors. Unskilled workers

across the economy will then suffer wage losses in the long-run, whereas only the unskilled workers in the import competing sector have to switch jobs and incur adjustment costs. In that situation adjustment assistance programs designed to assist workers during the adjustment period would fall short of satisfying all the potential requests for compensation from those who lose from trade reform. In fact, many of those losing in the long-run never suffered a direct impact from trade liberalization. Compensation of all those who suffer long-run losses from trade reform cannot be provided through adjustment assistance programs for those suffering a direct trade impact.⁷⁴ More broadly based redistribution systems would be required.⁷⁵

When comparing efficiency, equity and political arguments to intervene in the adjustment process, one could thus conclude that adjustment costs may create stronger resistance against trade reform than against other policy reforms. From a political point of view intervention in the adjustment process may thus be more compelling in the case of trade reform than in the case of other reforms. Equity concerns instead will not or inadequately be resolved through adjustment assistance programs, as changes in income distribution will mainly be caused by the long-run changes in factor demand related to trade and not by adjustment costs.

Box IV.8: Status-quo bias of policy reforms

The following example is taken from Rodrik (1995) and is meant to illustrate the argument that a natural status-quo bias to policy-making exists whenever some of the gainers (or losers) from reform cannot be identified *ex ante*. Many reforms that are politically sustainable *ex-post* will in this case not be adopted *ex ante*.

Consider a democracy where a majority vote is needed before trade reform can be adopted. Let the economy have 100 voters and suppose that the reform in question will increase the incomes of 51 individuals by \$5 each and decrease the incomes of the rest by \$1 each, leaving a net gain of $(5 \times 51) - (1 \times 49) = \206 . In the absence of uncertainty, the majority of the population would vote in favor and the reform would be adopted. We assume that all these consequences of reform are common knowledge. Now suppose that while 49 individuals know for sure that they will gain, the remaining 51 are in the dark as to which among them will gain and which will lose; however, since aggregate consequences are common knowledge, individuals in the latter group know that two of them will eventually benefit while 49 will lose out. This renders individuals in the second groups identical *ex ante*, with an expected benefit from reform of $[(5 \times 2) - (1 \times 49)] / 51 = -\0.76 each. Hence individuals in the uncertain group will reject reform, blocking its adoption.

Conversely, uncertainty of this kind can lead to reforms that will prove unpopular *ex post* (and hence be reversed) to be adopted *ex ante*. The bias towards the status quo derives from the following asymmetry: due to the uncertainty about the consequences of the reform, some reforms that will be *ex post* unsustainable are adopted, while some that would have been sustainable are not. Both of these types of "error" leave the policy in the status-quo position.

⁷³ Box IV.8 gives an example to illustrate how their argument works.

⁷⁴ The US Trade Adjustment Assistance Program (TAA) is a good example of a program designed to improve the efficiency of the adjustment process. As Sapir (2000) puts it: "it belongs more to the realm of efficiency than to the sphere of equity".

⁷⁵ Burtless et al. (1998) argue that long-term income losses represent the most important component of economic loss of displaced workers. A wage insurance scheme has therefore been suggested as an alternative to TAA for displaced workers. (See Burtless et al. (1999), Kletzer and Litan (2001) and an article by Robert Litan and Allan Mendelwitz in the Financial Times of March 1, 2001: "Finding a New Deal for America".) This wage insurance scheme would entitle eligible workers to receive some fraction of their wage loss for a limited number of years following the initial date of job loss. This fraction could vary by age and tenure of the worker and would only be paid when workers found a new job. The latter aspect would ensure that workers have an incentive to search for new employment. Besides this wage insurance scheme would focus on the main economic loss displaced workers face, independent of the reason for their displacement: namely, the significant wage cut in their new job, in particular during the first years after displacement.

V. Governments can facilitate the adjustment process

A. Domestic institutions and policies

This Section will show that domestic institutions and policies, and therefore policy makers, have an important impact on the size of adjustment costs workers and firms face as a consequence of trade liberalization. We will discuss the main markets and mechanisms influencing the size of adjustment costs and/or the efficiency of the adjustment process. We will also discuss how domestic policies can be employed to facilitate adjustment by lowering adjustment costs or improving the functioning of relevant markets.

1. Credit markets and social safety nets

The insufficient functioning of credit markets can severely hamper adjustment

Because credit markets do not always function efficiently, individuals and companies may face credit constraints and not be able to obtain the funding necessary for adjustment-related investments, even though they would be able to pay the loans back. Clearly in such a situation, the adjustment process can be severely hampered. Moreover, as capital markets tend to be less sophisticated in developing countries than in industrialized countries, adjustment problems due to credit constraints are more likely to occur in the developing world.

Administrative controls of interest rates, barriers to entry in the banking sector, the existence of directed credit programs and the public ownership of banks are among the most frequent factors that obstruct the smooth functioning of financial markets in developing countries.⁷⁶ Administrative controls often lead to interest rates being artificially low. Instead, barriers to entry limit competition in the financial sector, which tends to result in high interest rate spreads harming both lenders and borrowers.⁷⁷ In this situation, interest rates are not market determined and therefore do not reflect equilibrium rates. Funds will tend to be allocated inefficiently and may serve to finance unprofitable projects, while profitable ones do not find funding. Directed credit programs and publicly owned banks often serve more explicitly the purpose of funding government selected investment projects that are not necessarily the most profitable ones in the economy.⁷⁸

Small companies are more likely to suffer from credit constraints than big ones

When it comes to companies requiring investment loans, it seems that small companies will suffer from credit constraints more often than larger firms. This seems to be the case in both industrialized and developing countries. The US Trade Adjustment Assistance focuses in particular on small and medium sized companies. The World Bank (1997) notes that “lack of access to

finance for new investments” was the most severe constraint small firms in Ghana faced after trade reforms in 1983. Also Bigsten et al. (1999), in a study on Cameroon, Ghana, Kenya, Zambia and Zimbabwe, find that small firms tend to face greater credit constraints than large firms.

Jaramillo and Schiantarelli (1996) carried out an econometric analysis on the determinants of access to long term debt in Ecuador. They found that the main determinant of the probability of obtaining long term credit is firm size, with the probability decreasing the smaller the firm. They suggest several reasons for this. The most straight-forward one is simply that the availability of collateral is a prerequisite to obtain long-term credit. Moreover, larger firms tend to be more profitable in Ecuador, and it should be expected that “better” companies more easily obtain long-term credits. The authors also suggest that larger firms are likely to have better bargaining power and greater political influence in obtaining long-term financial resources.

Credit assistance can be very costly for an economy if directed to companies that cannot be competitive in the long-run

Distortions in credit markets give scope for government intervention, for instance in the form of credit assistance. This, however, involves difficulties when it comes to selecting credit-worthy adjustment projects. It is not in the government’s interest—or within its power—to assist every company encountering difficulties in the face of foreign competition (lack of competitiveness may be the result of bad management, for example). An investment plan should therefore be required in order to choose creditworthy projects. Firms may require assistance for making such an adjustment plan, in particular small or medium firms, and firms’ participation in the costs of the investment project increases the incentives for firms to carry out the project properly.

Another option that might be helpful in certain situations would be to announce trade liberalization in advance, giving firms an opportunity to fund adjustment-related investments out of profits *before* increased import competition begins to put pressure on profit margins. The credibility of pre-announced trade reforms would be crucial since firms will not begin to adjust unless they are confident the government will not back down on the promised reforms.

Social safety nets can help workers cover adjustment costs

Also workers may require funding during the adjustment process, in particular if they lose their jobs and are temporarily unemployed. An unemployed person who cannot rely on his or her own savings may have to borrow money in order to cover ongoing expenses for food, clothing, housing, etc. Yet, it will be

⁷⁶ See for instance Laeven (2000).

⁷⁷ See for instance Barajas et al. (2000) for the case of Colombia, where interest rate spreads surpassed those in developed countries by more than 500 basis points and those of neighbouring economies by more than 100 basis points before financial sector liberalisation.

⁷⁸ This is for instance reflected in high default rates on loans. Collier and Gunning (1999) mention default rates in the 40-95 per cent rates for publicly owned banks in Africa.

difficult for an unemployed individual to obtain loans, the more so in the absence of collateral. Many industrialized countries have, therefore, installed social safety nets, for instance in the form of unemployment benefits, to help out in these kind of situations. They enable workers to overcome credit constraints and get through the costly adjustment period necessary to switch jobs. In this sense, unemployment benefits can actually enhance adjustment. Note that this is the case for any type of adjustment, not only adjustment to trade liberalization.

Workers may also face credit constraints when looking for funds to invest in training. To obtain funding from private credit institutions for such "investments in human capital" is notoriously difficult. In many industrial countries governments provide publicly-funded retraining programmes to the unemployed.

In developing countries characterized by badly functioning credit markets and a lack of social safety nets, adjustment may cause severe hardship to the poor

Recent macroeconomic crises in Latin America and East Asia have shown that existing safety net mechanisms are too often inadequate in developing countries.⁷⁹ Their coverage is limited and leakage is high, or the assistance available is far below demand during a crisis or adjustment period. Adjustment processes can thus have very harsh consequences in those countries, particularly for the poorest. To them, as Winters (2000) puts it, "even switching from one unskilled informal sector job to another could cause severe hardship". Note that, contrary to the case of firms, the pre-announcement of trade reform is unlikely to facilitate adjustment for workers in developing countries. If they could not build up savings in the past, they will be unlikely to have the means to do so during the implementation period of the trade reform.

2. Labor markets

While credit markets primarily determine whether individuals can finance the necessary adjustment costs, domestic labor market characteristics actually affect the size of adjustment costs workers face. In particular, they can affect workers' decisions with regard to adjustment in two ways: they can affect their costs of leaving the current employer and their costs of searching a new job. Labor market characteristics can also affect companies' incentives to create jobs, which will in turn affect the length of time in unemployment and the costs of searching for a job.

Labor market characteristics affect workers' adjustment costs and thus an economy's propensity to adjust

- *Fringe benefits for workers*

Workers may find it costly to leave a job if this implies the loss of fringe benefits like claims to a company pension. Workers may also prefer to wait until they are laid off rather than leaving deliberately, if the former gives them the right to claim severance payments and the latter does not. A country's institutional arrangements with regards to these aspects of the employer-worker relationship thus affect the potential for adjustment. Industrial countries differ significantly in their labor market charac-

teristics. In Germany, company pension schemes play a predominant role, while they are virtually non-existent in other European countries. This makes the German labor market relatively less flexible. According to Maloney (1997), Mexican workers lose generous severance pay and may lose their pensions if they quit. At the same time, in Mexico, roughly 40% of the urban labor force was working in the informal sector in the 1990s and thus in a highly flexible environment. Matusz and Tarr (1999) argue that many developing countries are characterized by this type of dual labor market, with a relatively inflexible formal segment but a highly flexible informal segment. This makes it difficult to evaluate the overall capacity of developing countries to adjust when it comes to trade liberalization.

- *Employment protection versus start-up costs*

Adjustment in an industry may involve starting up new firms. Employment protection policies, like large severance payments, may discourage entrepreneurs from hiring workers needed for starting up a new company, since it would be costly to let them go in case the business is less profitable than expected. With regard to this and other start-up costs, it can be argued that developing countries provide a more flexible environment for the creation of new companies than do the industrialized countries, especially when it comes to micro and small-scale enterprises (MSE). Indeed a study by Liedholm and Meade (1995) shows that in the sample of developing countries they studied, MSEs are created at a rate of 20 per cent, a much higher start-up rate than in industrialized countries.

- *Unemployment benefits*

Unemployment benefits, one possible aspect of the social safety nets referred to above, can enhance adjustment, as they reduce the income losses and uncertainty workers face when switching jobs. Yet, if unemployment benefits are very generous, they can have the effect of lowering the incentives for unemployed people actually to search for a job and thus hamper adjustment. It has been mentioned before that many developing countries are characterized by a complete absence of social safety nets. In these cases the introduction of unemployment benefits would most likely enhance adjustment.

- *Search costs*

Provided such information sources exist, people looking for a job buy newspapers, consult the Web and public and/or private employment agencies. It appears that these types of "institutions" are more readily available and more developed in industrialized countries than developing countries, which means higher adjustment costs for workers in the latter group of countries.

- *Minimum wages*

Government controls or other rigidities in prices can also affect the adjustment process. As competition from foreign products puts a downward pressure on product prices and consequently on wages in one or more import-competing industries, a minimum wage law may prevent firms from lowering wages in order to safeguard jobs.⁸⁰ Sudden lay-offs of large

⁷⁹ Ferreira et al. (1999).

⁸⁰ See Mussa (1986) for a more thorough analysis of the effects of minimum wages on adjustment.

numbers of workers may be the consequence. Though this does not represent a problem for the economy if these workers easily find new jobs, it may lead to serious problems if bottlenecks occur in the job-search or retraining process.

Minimum wages differ significantly across and within regions. When looking at regional averages, Forteza and Rama (2001) find that the ratio of minimum wages to average labour costs in large manufacturing firms corresponds to 33 per cent in industrialised countries, compared to 30 per cent in Latin American and Caribbean countries and 18 per cent in Sub-Saharan Africa. The corresponding values for Eastern Europe/Central Asia and South Asia are 32 per cent and 44 per cent respectively. Yet significant differences have been observed across countries within one region. A study comparing the minimum wage standardised by the countries' mean wage in Latin American and OECD countries finds that minimum wages in Uruguay, Bolivia, Brazil, Argentina, Chile and Mexico are lower than in any OECD country. Venezuela, El Salvador, Paraguay and Honduras, instead, score among the highest.⁸¹

- *"One company towns"*

Adjustment to trade liberalization may also be more drastic when important spillovers exist between the shrinking import competing sector and other parts of the economy. This may, for instance, be the case in "one company towns" as discussed by Rama (1999) in the context of public sector down-sizing. The main feature of this setting is the large share of jobs in a particular town (region) provided by one particular company, where many of the other jobs in the town also depend on employment and wage levels in that company. For instance, the company's

employees are probably the most important customers of the town's private shops. A drastic reduction in employment in the company is therefore likely to depress private sector activity in the town. The liberalization of cashew exports in Mozambique, for instance, led to the closure of most of the country's cashew processing factories. Recent evidence suggests that whole towns have literally shut down as a result of those closures.⁸²

Rama (1999) argues that these linkages between the shrinking company and other private sector activities represent an argument for limiting the downsizing of the relevant company. Alternatively, the government could establish temporary training centers or "job search centers" to assist affected workers in locating jobs in other regions (see Box V.1).

- *Unionization*

Labour market conditions can also affect the outcome of economic reforms through mechanisms that are of a more political rather than economic nature. Trade liberalisation, like most economic reforms, creates winners and losers. The level of unionization may affect the extent of losses faced by workers in import competing sectors and their ability to organize resistance against liberalisation in order to prevent these losses.⁸³ If resistance leads to half-hearted adoption of reforms or even to policy reversals the adjustment process may be seriously hampered.

Union membership as a percentage of the total labour force tends to be lower in developing countries than in industrialised countries. When looking at regional averages, union membership turns out to be highest in Eastern Europe and Central Asia, with 67 per cent of the labour force being unionised (Forteza and

Box V.1: Adjusting to falling corn prices in Mexico⁸⁴

In the context of the North American Free Trade Agreement (NAFTA), Mexico agreed to open up its agricultural sector to imports from the United States and Canada. Corn was by far the most important crop included in NAFTA, accounting for approximately 60 per cent of land under cultivation and a similar proportion of agricultural output by value at the time of the final treaty negotiations. In terms of employment generation, corn is the single most important commodity in the economy, providing the main source of livelihood for over three million producers, who account for eight per cent of Mexico's population.

Because of the important role of corn production in Mexico, NAFTA originally established a long transition period for the sector, allowing fifteen years for the final alignment of domestic corn prices with lower international prices. Mexican corn producers also received assurances that adjustment-assistance policies would be implemented during this transition period, ranging from direct income support mechanisms to credit, infrastructure investments, and agricultural research and development.

A recent study commissioned by Oxfam GB and WWF International revealed that in practice the planned transition period was compressed to less than three years, with domestic corn prices falling between January 1994 and August 1996 by 48 per cent and Mexican corn producers being forced into a rapid adjustment.

According to the study, a group of "intermediate producers" that were making adequate profits before liberalisation had to face significant declines in profits as a consequence of liberalisation, with some producers even facing losses. The main form of adjustment chosen by this group of producers was migration into urban areas. This was in particular the case in the state of Puebla, where over 30 per cent of the population of Soltepec and Mazapiltepec migrated to the urban centres of Puebla and Mexico City in 1997. Strong urban social networks have been established to facilitate travel and settlement of new migrants.

⁸¹ See Maloney and Nuñez (2001).

⁸² See McMillan et al. (2002).

⁸³ See Harrison and Hanson (1999) for evidence on Mexican labour sharing in the rents accruing to protected sectors prior to trade reform.

⁸⁴ This section is based on Alejandro Nadal (2000): "The Environmental and Social Impacts of Economic Liberalization on Corn Production in Mexico", A Study Commissioned by Oxfam GB and WWF International.

Rama (2001)).⁸⁵ The percentage is on average 37 per cent in industrialised countries, significantly higher than in Latin America and the Caribbean (19 per cent), the Middle East and North Africa (17 per cent), Sub-Saharan Africa (10 per cent) and South Asia (9 per cent). Whether and to what extent a high level of unionisation leads to political resistance, for instance in the form of strikes, depends on many other factors, such as the relationship between unions and the political leadership. France was, for instance, one of the European countries with the highest number of strikes and lockouts in 1990 (1529), although it has a relatively low level of unionisation (14.5 per cent in 1985 and 9.1 per cent in 1995). Compare this to Austria, a country with a significantly higher level of unionisation (51 per cent in 1985 and 41.2 per cent in 1995) and a very low number of strikes and lockouts (9 in 1990).⁸⁶

Empirical analysis suggests that labor market characteristics have negative effects on adjustment if they enable organized labor to delay or water down planned reforms

To our knowledge Forteza and Rama (2001) is the only study comparing the impact of different labour market characteristics on an economy's propensity to adjust.⁸⁷ They include in their analysis, in addition to minimum wages and non-wage costs, the level of unionization and the size of government employment in their measures of labor market rigidity (these two indicators are assumed to capture the ability of potential losers from reform to express their grievances). Their empirical analysis shows that countries where organized labour is influential experience recessions right before adjustment, and slower recovery afterwards, whereas growth performance is not affected by the level of minimum wages and non-wage costs. These results suggest that labour market characteristics affect adjustment through political mechanisms rather than economic ones.

3. Education and training

In some industrialized countries, it is compulsory to participate in certain training courses in order to receive unemployment benefits. Such courses often aim at assisting workers in the search process directly, for instance by teaching them how to apply for a vacancy and how to conduct a job interview. Training may also aim at providing unemployed workers with skills that are in high demand. In the context of the privatisation of Brazil's Federal Railway, for instance, an attempt was made to adapt training courses to the particular needs of laid-off workers.⁸⁸ For this purpose, regional labour markets were studied in detail by labour market specialists in order to determine the nature and composition of the market relative to supply and demand. In the case of trade liberalization, specially designed training courses could target the skills demanded in export industries which are expanding as a result of the reform. Trade reform may justify the temporary creation of such training centers, in particular in those countries that do not normally provide these types of services to their unemployed.

Evidence on the effect of retraining programs on unemployment duration and wage level is mixed

Evidence on the benefits of retraining programs is mixed. Matusz and Tarr (1999) cite examples of government-sponsored retraining programmes in Hungary and Mexico. Evidence for Hungary suggests that workers who participated in the programme had a slightly higher chance of being re-employed compared to those who did not participate. Furthermore, the wages of participants upon re-employment were slightly higher and they obtained jobs that were more permanent. In Mexico, the retraining program seemed to be effective in increasing the chance of finding a job or getting a higher wage only in the case of (a) trainees who had previous work experience and (b) adult male participants. Rama (1999) mentions the case of public sector downsizing by Spain in the 1980s and the limited success in relocating workers to alternative industries, in spite of extremely large retraining programmes. This failure seems to have been partly due to retraining being focused on updating previous skills rather than on acquiring new ones.

4. Infrastructure and utilities

Investing in new capital goods may involve higher costs in developing countries than in industrialised countries. Reducing these costs can enhance the gains from trade

The quality of a country's infrastructure and utilities can also have an important impact on adjustment costs, in particular on adjustment costs for firms. In principle, higher transaction and information costs associated with investment should have a negative impact on producers' response to trade liberalization.

It has been argued that firms in developing countries face higher transaction and information costs because of poor infrastructure and deficient public services. More specifically, public infrastructure and services can be seen as complementary capital, i.e. as capital that provides support services necessary for the operation of productive private capital. Complementary capital would typically include transport and communication infrastructure and utilities such as electricity and water. In many countries complementary capital is publicly provided, but in certain cases firms can substitute for deficient public services by investing privately in complementary capital.

Reinikka and Svensson (1999) have examined how inadequate provision of public infrastructure and services affects private investment in Uganda. Using firm-level data, they have found that deficient public capital significantly reduces productive investment by firms. They have also shown that firms can invest privately in complementary capital to cope with deficient public capital but that this is costly as less productive capital will be installed. Further evidence concerning the impact of poor public services on firms in Africa is provided by Collier and Gunning (1999). They report that lack of infrastructure and high utility

⁸⁵ The figures refer to averages over the period 1970-1999. ILO (1999) reports declining levels of unionisation in many European countries in the 1990s.

⁸⁶ See ILO (1999).

⁸⁷ The study looks at adjustment to "economic reform programs" financed by World Bank adjustment credits and loans.

⁸⁸ See Estache et al. (2000).

prices ranked as the fourth and fifth problems for manufacturing firms in a survey of firms in seven African countries, after lack of credit, lack of demand, and high taxes.

5. Information and expectations

In the absence of reliable information about prices and market opportunities workers and firms may not switch towards new activities after trade liberalization

In order for companies (and workers) to even consider adapting to a new trade policy, they must have information about the new policy. The policy must seem credible to them and they must be able to judge the new opportunities created by this new policy. It is questionable to what extent reliable sources of information about prices and market opportunities are available in developing countries.

Evidence on households in rural Africa, for instance, indicates that information is spread within small and intense networks often restricted to a village community. The size of those networks probably reflects low population density and high transport costs.⁸⁹ Links among communities are weak and it is therefore difficult for market or technological information to pass from one community to another. One of the consequences of these limited information flows is that familiarity with a particular type of business tends to reproduce itself over time, thereby locking particular groups or countries into specific production patterns.⁹⁰ In such an environment it is difficult to switch to new activities after trade liberalisation, even if they are potentially more lucrative. It has been suggested that public investment in basic infrastructure, such as roads, or in the development of local media, such as the radio, could do a lot to improve flows of information.⁹¹

6. Domestic macroeconomic policy

Developing countries in particular often embark on trade reform in the wake of an economic crisis associated with high inflation and unsustainable fiscal and balance-of-payments deficits. In that situation, the sequencing of stabilization and trade policy reform measures becomes a key issue. Should these reforms be undertaken simultaneously, or is there a specific pattern of sequencing that is more advisable? The answer to this question may differ from country to country, but answering it correctly is crucial for the success of trade reform.

Experience has shown that failed attempts at trade liberalization have often been the result of inconsistent macroeconomic policies

Experience has shown that failed attempts at trade liberalization have often been the result not of the trade reforms themselves, but of inconsistent macroeconomic policies that reduced the credibility of the reform program and/or led to excessive adjustment costs and a reversal of trade policy as a result of political resistance. Gaston and Treffler (1997), for example, found that if restrictive macroeconomic policy (which

often causes temporary increases in unemployment) and trade liberalization are carried out simultaneously, the false impression may arise that all of the observed increase in unemployment is the result of the trade liberalization and that the adjustment costs generated by trade liberalization are unacceptably high.

Trade reforms could also be adversely affected by macroeconomic stabilization measures if the latter result in high interest rates that constrain investment, and thus the supply response of firms to trade reforms. A recent study on the effect of trade liberalization in IMF-supported structural adjustment programmes in Eastern and Southern Africa during the 1990s, however, seems to suggest that macroeconomic stabilization does not necessarily limit investment.⁹² Dividing the countries under programme in this geographical area into two groups according to the level of trade liberalization achieved at the end of 1998 shows that “fast reformers” fared much better than “slow reformers” with regard to both investment ratios and inflation performance. This points to the existence of positive interactions between macroeconomic and trade reforms. The same study also contrasts the case of Mozambique with that of Zambia.⁹³ In Mozambique, trade liberalization was complemented by a comprehensive package of reforms including the liberalization of interest rates. Mozambique’s trade liberalization began in the late 1980s and gathered momentum in the mid-1990s but the investment to GDP ratio rose from under 15 per cent in the early 1990s to an average of 25 per cent during 1997-1999. Economic growth averaged 7 per cent a year during 1993-95 and 10 per cent a year during 1996-99, while inflation was reduced from over 50 per cent in the early 1990s to single-digit levels in 1999. Zambia, on the contrary, had problems implementing comprehensive reforms and experienced macroeconomic instability which, according to the IMF, undermined any positive effects of trade liberalization.

B. Trade policy

Having discussed the relevance of domestic institutions and policies for the adjustment process, we turn now to the question of how the design of trade policies affects the adjustment process. In particular, we consider the importance of the credibility of trade reform and whether and when the presence of adjustment costs justifies delays in liberalization, a gradual approach to liberalization, or government intervention in the promotion of exports.

1. Political and economic arguments in favor of gradual trade liberalization

It has been argued that gradual trade liberalization may be preferable to immediate liberalization, on the assumption that a slower adjustment process would involve lower adjustment costs for the economy. However such situations are the exception rather than the rule since, in general, the size of adjustment costs does not depend on the timing of trade liberalization. Immediate trade liberalization therefore makes sense, as it allows the economy to reap the benefits from trade as soon as possible.

⁸⁹ See for instance Collier and Gunning (1999) and McDonald et al. (1999).

⁹⁰ Fafchamps (2001).

⁹¹ McCulloch et al. (2001), McDonald et al. (1999).

⁹² See Subramanian et al. (2000).

⁹³ The study also contrasts the case of Uganda with that of Zambia.

Box V.2: Trade liberalization and macro-economic stabilization in Chile

Chile implemented an ambitious liberalization program in the 1970s that contained a number of measures including trade reforms, the liberalization of the domestic financial sector and of the capital account. In the same period a stabilization program was introduced that managed to reduce inflation from an annual rate of 750 per cent at the end of 1973 to about 10 per cent in 1982 (Michaely and al. (1991)).

The tariff reduction and the exchange rate policy reform benefited non-traditional (or non-copper) exports, which experienced a sharp increase, growing from 11 per cent of total export in 1970 to 34 per cent in 1980. The manufacturing sector as a whole experienced an important increase in productivity. Those industries that greatly improved the level of efficiency, introducing new technologies and adopting modern management systems, experienced a significant increase in production during the 1970s. Other industries, in particular those that traditionally had had a very high level of protection (textiles and leather goods), experienced large output losses. With respect to the agricultural sector, there were major changes in the composition of production, with resources tending to move away from "traditional products toward export oriented-crops". As for the commerce and financial services sectors, they experienced fast growth between 1976 and 1981, due basically to the change toward an open, market-oriented approach to economic policy, which generated a substantial increase in efficiency (Edwards (1986)).

In the short-run, the stabilization program was to generate a large reduction in the overall level of economic activity. The fiscal shock plus the sharp decline in Chile's terms of trade resulted in a reduction of GDP in 1975 of 12.9 per cent, and in a steep increase in the rate of unemployment to almost 20 per cent in September of that year (Edwards (1986)). Unemployment remained at exceptionally high levels throughout most of the adjustment period. This was partly due to the negative effect of the stabilization program on the demand for labor, the reduction of the public sector, and the major readjustment in the manufacturing sector brought about by the liberalization of foreign trade. However, some institutional and political factors (having to do with the labor law and exchange rate policy) might have also played an important role. The labor market was characterized by the imposition of a minimum wage and a backward indexation system. As a result, the minimum wage increased in real terms by 20 per cent between 1975 and 1979 leading to an additional negative impact on employment (Edwards (1986)).

Immediate trade liberalization may be followed by gradual adjustment, depending on how the costs each individual faces are affected by the number of individuals that adjust in one period

If adjustment costs are such that it is best to adjust slowly, then workers and firms will choose to do so. In other words, immediate trade liberalization may well be followed by gradual adjustment.⁹⁴ In particular, adjustment is likely to be gradual if each individual's adjustment costs during a period increase according to the number of people that decide to switch sectors during that same period. This could for instance be the case if bottlenecks occur in the labor market. Workers may choose to leave their current job sooner or later depending on the local or regional level of unemployment.

The idea of workers "choosing" the rate at which they adjust may sound surprising, but finds some empirical support in the literature. For example, as far as anticipatory job changes are concerned, Haynes et al. (2000) found in their analysis of the UK New Earnings Survey Panel Dataset that wage changes for movers are almost always positive and greater than wage changes for stayers, which leads the authors to suggest that the majority of

job changes included in the sample were resignations rather than layoffs.

Gradual trade liberalization may be optimal for political reasons and in the presence of certain market distortions

It cannot be excluded that trade liberalization is followed by excessive lay-offs and thus excessive adjustment costs. As mentioned before, this may happen, for instance, if a minimum wage law prevents firms from lowering wages in order to safeguard jobs. In order to reduce adjustment costs, the government may consider lowering the minimum wage, a politically hazardous and possibly undesirable decision. An alternative policy could be to slow down trade liberalization, as in this type of situation gradual liberalization may actually trigger gradual adjustment (Mussa, 1986).⁹⁵

Governments may also choose to lower tariffs gradually if they expect individuals to underestimate adjustment costs. This may, for instance, be the case if the shrinking industry is a major regional or national employer.⁹⁶ Shrinkage of the industry would imply a large number of workers being released from their current job which may have serious negative repercussions on regional/

⁹⁴ As Mussa (1986) puts it: "When private economic agents who control the disposition of productive resources have rational expectations, which allow them correctly to calculate the values of locating these resources in alternative activities, and when there are no distortions of the adjustment process that cause these agents to see private adjustment costs that differ from social adjustment costs, then the adjustment process subsequent to an immediate change of commercial policy to its long-run optimum will be socially efficient."

⁹⁵ It should, however, be remembered that any policy of slowing down liberalization gives wrong price signals to the market. Tariffs maintain the attractiveness of the protected sector artificially high for new capital. Gradual trade liberalization would thus not only have a negative effect on consumers but would also keep on attracting investments into the protected sector, which would thus have a tendency to grow instead of to shrink. If this happens, gradual liberalization would hamper adjustment instead of improving it.

⁹⁶ Individuals may also underestimate society's adjustment costs if adjustment costs increase according to the number of people "adjusting" and individuals are uncertain about "their place in the line". Individuals' expected adjustment costs will then correspond to the average costs, which are lower than the marginal costs of the "last individual".

national private sector activity in general.⁹⁷ Those repercussions represent externalities which, if not taken into account, may result in excessive layoffs. Gradual trade liberalization may in these cases manage to soften the adjustment process. This argument may in particular apply to developing countries, in particular small ones, as the composition of their exports is often characterized by a lack of diversification.⁹⁸

Gradual trade liberalization has also been discussed in the context of government credibility. Depending on a country's economic and political setting, for example, it may be the case that an immediate move to free trade is thought so unlikely to survive political pressures that the public does not consider it to be a credible policy. Gradual liberalization would then enhance credibility. Note also that it has been argued that gradual liberalization will be the natural outcome of negotiation processes among large countries—as is evident from liberalization in the context of GATT and WTO negotiations.⁹⁹ More on this below.

2. Why implementation periods may help firms to adjust but cannot replace social safety nets

The functioning of credit markets has been identified as a crucial element for the smooth functioning of adjustment processes. In the presence of poorly functioning credit markets, workers and/or firms may face difficulties obtaining the funding necessary to manage the costly phase of the transition period. Credit assistance programs require government funding, which developing countries in particular may not have at their disposal. For those countries, delayed but announced trade liberalization could be an alternative way to overcome adjustment problems.¹⁰⁰ Announcing trade liberalization for a certain date in the future gives economic actors a warning about the upcoming changes. It gives companies a chance to accumulate profits and to rely on internal financing to make investments in order to survive foreign competition. Time alone, however, is unlikely to help those low income workers who are unable to accumulate savings from their income. Implementation periods for trade reform can therefore not replace social safety nets.

It could be argued that governments may consider applying temporary import tariffs in the case of temporary changes in the trade environment, as discussed in Section IV.B. Again, this would only make sense in the case of imperfectly functioning credit markets and the emphasis has to be put on the word “temporary” in this case.¹⁰¹

3. Why the credibility of trade policy matters for adjustment

If trade reform is not credible adjustment may not take place

As we have stressed, in order for workers and firms to adjust to trade liberalization, it is crucial for them to believe that the

move to freer trade will occur on schedule and that it will be permanent. Reversals of trade policy reform programmes have, in fact, frequently occurred in the past and it is therefore not surprising that governments encounter credibility problems. According to Rodrik (1989), the types of policy reversals that have occurred include: re-imposition of quantitative restrictions after liberalization; putting export subsidies on, taking them off and instituting them again; promising but not delivering subsidies upon export; instituting exchange-rate auctions and then abolishing them; reducing tariffs across the board, only to raise them later.

There are various types of situations in which a government's move towards free trade may not be considered credible. For instance, a government heavily relying on trade taxes for its revenue will face serious budgetary difficulties if it reduces those taxes without replacing them by other sources of revenue.¹⁰² The probability of a policy reversal may therefore seem high. There may also be doubts about the government's commitment to the new policy simply because it doesn't correspond to the policy stance taken by the same government on previous occasions.

The issue of enhancing the credibility of government policies is not only an economic one, but inevitably involves political and maybe even psychological aspects. Mussa (1986) has argued that a policy of very gradual liberalization might be regarded as such a concession of political weakness and indecision on the part of the government that it would stimulate little or no adjustment. Immediate liberalization would thus be the correct policy. Yet it may also be the case that an immediate move to free trade is thought so unlikely to survive political pressures that the public does not consider it to be a credible policy. Gradual liberalization would then enhance credibility.

Political pressure to reverse trade liberalization is likely to come from the import competing sector. In order to counter-balance this pressure a government may thus want to build up political support for trade liberalization by actively supporting the exporting sector. It has therefore been argued that export promotion, in particular during early stages of trade liberalization, may enhance credibility (Rodrik (1989)).

Participation in international agreements may enhance the credibility of announced trade reform

Last but not least, it has often been argued that participation in international agreements that bind a government's policy options provides a useful mechanism to enhance credibility. Opponents of trade reform are more likely to accept that a policy reversal is improbable, once a country has committed itself with respect to other countries and international obligations. Indeed, it has been suggested that this is one of the main reasons why

⁹⁷ We are referring to the “one company town” situation discussed in Section V.A.2.

⁹⁸ In 1997 out of 23 developed economies none had a concentration index above 0.4 and only three (Norway, Iceland and Israel) had a concentration index higher than 0.2. In a group of 76 developing countries instead, 19 (or 25%) were characterized by a concentration index above 0.4 and 48 (i.e. over 60%) by a concentration index higher than 0.2 (See UNCTAD, 2000).

⁹⁹ See for instance Furasawa and Lai (1999) and Staiger (1995).

¹⁰⁰ Indeed, as Section VI shows, WTO agreements allow for implementation periods of different lengths, which could reflect differences in governments' capacities to deal with adjustment problems on a purely domestic level.

¹⁰¹ See the discussion on Safeguard Measures in Section VI.

¹⁰² See Box III.1.

Box V.3: The importance of credibility: why farmers did not plant new cashew trees in Mozambique

In the early 1990s the World Bank prevailed on Mozambique's government to liberalize the cashew sector and to remove restrictions on exports of raw cashews. Export liberalization was expected to lead to an increase in farm gate prices that would benefit poor farmers directly. It was also hoped that this would in the medium- and long-run reinvigorate the rural sector by reversing the dramatic collapse in cashew tree planting.

Although raw cashew prices did indeed increase after export liberalization, farmers refused to plant new trees. McMillan et al. (2002) argue that this lack of adjustment was to a large extent due to the fact that the government's change in policy and the resulting price changes were not considered to be credible and that a policy reversal was expected.

Farmers spend typically around 50% of their time caring for existing cashew trees prior to harvest. Cashew trees take from 3-5 years to bear any fruit at all and take longer to bear enough fruit to make the investment worth while. In order for farmers to plant new trees it is therefore important for them to believe that future cashew prices will be high enough to allow them to recover their investment. Simple promises by the government for prices to increase may in such a situation not be credible enough in the absence of a commitment mechanism. In the case of Mozambique credibility of the trade reform may have been particularly low because it had not been undertaken of the government's own volition.

McMillan et al. (2002) argue that credibility could have been increased by the removal of structural constraints like poor roads, lack of access to credit, or monopsony power on the part of domestic traders. Such non-price reforms are harder to reverse than trade policy reforms and may therefore be more effective in increasing the expected profitability of investment from the farmers' point of view, thus eliciting stronger supply responses.

Based on McMillan et al. (2002)

governments consider joining free trade areas or multilateral agreements like the WTO.

The European Union has often been put forward as an example of the importance of international agreements for enhancing the credibility of trade reforms. It has for instance been argued that European Union membership was a crucial factor in determining the credibility of financial sector reform in countries like Spain and Portugal. It played a large role in convincing financial institutions that the move towards internationalization of financial services within the European Union was irreversible and that a timely adjustment was necessary in order to survive (Vives (2000) and Gardener et al. (2000), see also Box IV.4).

4. Export promotion and the expansion of exporting sectors

The adjustment process following trade liberalization typically involves labour and capital moving from shrinking import-competing industries into expanding export industries. The expansion of exporting industries is thus important in order for the adjustment process to be smooth. If inefficient credit markets hinder the expansion of potential exporters, adjustment may be hampered and government intervention in favor of exporters may be warranted.

Export expansion may be more difficult when it implies moving into completely new export activities. It has been argued in Section IV.B that starting up new export activities tends to be more complex and costly for companies than expanding existing ones. Many developing countries, in particular small ones, are characterized by a highly concentrated export structure.¹⁰³ In

these countries expanding exports most likely implies that the private sector has to move into new activities. Given the costs and risks involved in such a move, companies are more likely to encounter credit constraints than if they were simply expanding existing activities.

It has also been argued that positive spillovers exist from breaking into new export markets.¹⁰⁴ This would imply that benefits for the country as a whole are larger than those accruing to the company deciding to expand exports to new markets. If this is correct, there is a case to be made for government support for export promotion independent of whether the credit market is functioning efficiently.

Aitken, Hanson and Harrison (1997) cite the example of garment exports in Bangladesh as a case that suggests that this type of spillover may be important. The entry of one Korean garment exporter in Bangladesh led to the establishment of hundreds of exporting enterprises, all owned by local entrepreneurs. Garment exporters, which accounted for a negligible percentage of total export earnings, became the single largest source of foreign exchange earnings after the entry of one multinational firm.

[Active export promotion by the government can be defended on economic efficiency grounds if exporting involves positive externalities](#)

Spillovers may take a variety of forms. Exports may require specialized transportation infrastructure, such as storage facilities or rail tracks. Once it is built any additional exporter can take advantage of its existence. The presence of other exporters may also improve access to information about foreign demand.

¹⁰³ See footnote 98.

¹⁰⁴ Robert and Tybout (1997) test for a second type of externality, i.e. the one that exporting increases the productivity of companies (learning from exporting). They however find little evidence for the existence of this effect.

Box V.4: The Trade Point Programme

A key component of UNCTAD's Trade Efficiency Initiative is the Trade Point Programme, which mainly consists of establishing, operating, and interconnecting Trade Points in all regions of the world. The programme facilitates access to the latest information and telecommunication technologies by making them available to trade operators in developing countries and to SMEs worldwide—at a reasonable cost—through the chain of Trade Points.

The Programme's objectives are:

- to enhance the participation of developing countries and economies in transition in international trade, with special emphasis on small-and medium-sized enterprises;
- to reduce transaction costs and promote better trade practices including through the use of information technologies and EDI; and
- to allow better access for traders to trade-related information and global networks.

As of July 2000, 200 Trade Points had been established in 130 countries. A Trade Point is:

- A trade facilitation centre, where participants in foreign trade transactions (e.g. customs, foreign trade institutes, chambers of commerce, freight forwarders, transport companies, banks, insurance companies) are grouped together under a single physical or virtual roof to provide all required services for trade transactions.
- A source of trade-related information which provides actual and potential traders with data about business and market opportunities, potential clients and suppliers, trade regulations and requirements, etc.
- A gateway to global networking. All Trade Points are being or will be interconnected in a worldwide electronic network and equipped with efficient telecommunications tools to link up with other global networks.

Source: <http://www.unctad.org>

Whatever their form, the result is that exporting is more beneficial to the economy as a whole than the individual exporters realize. In such a situation private investment into export activities would be too low and active export promotion by the government can be defended on economic efficiency grounds. This is one of the goals pursued by the UNCTAD's Trade Point Programme presented in Box V.4.

In addition to the anecdotal evidence suggesting the existence of spillovers, some empirical work exists that supports this suggestion. Clerides, Lach and Tybout (1996) find that the costs of breaking into foreign markets are negatively related to the number of firms that already have done so. Aitken, Hanson and Harrison (1997) examine whether locating near other exporters increases the probability of exporting, using data on 2,104 Mexican plants over the period between 1986 and 1990. They find that the probability a domestic plant exports is indeed positively correlated with the proximity of other exporters, but only if the latter are multinationals. The authors suggest that this

finding is the consequence of the multi-market presence of multinational enterprises, which makes them a natural conduit for information about foreign markets, foreign consumers, and foreign technology. Besides, they may provide channels through which domestic firms can distribute their goods. As a consequence, the authors highlight the importance of the presence of multinational enterprises in export processing zones.

There is, however, no easy formula for a successful export promotion scheme. The experience of several African countries shows that export promotion may well be a waste of scarce government funds (see Box V.5). There are also studies that raise doubts about the need for export promotion. The results surveyed in Michaely et al. (1991, p. 194), for instance, show a strong correlation between trade liberalization and rapid export growth, and no sluggishness in the response of exports following liberalization. They also do not find evidence of a statistically meaningful correlation between export growth and the presence or absence of export incentives.

Box V.5: Exporters and Custom services in Africa

Africa is rich in export processing zones, duty drawbacks, exemption schemes, and value added tax rebates, to compensate exporters for tariffs on inputs. But except in Mauritius, these have not worked out well. In West and East Africa, incentives often leak to non-exporters while rebates to exporters arrive late or not at all. In addition, key services, such as customs, often operate inefficiently, taking weeks to clear consignments and imposing additional costs on business.

The global frontier is moving rapidly in such areas, with normal clearance times down to as little as 15 minutes in some industrial countries. In other regions where trade restrictions are no lower than in Africa, export processing zones are well established and appear to operate more effectively. One example is Central America, where customs clearance is far faster and services standards are higher. An important reason appears to be the strength of powerful exporters and their ability to hold governments accountable for good services. Exporters are not yet a strong pressure group in most African countries. But governments will need to act as though they were if economies are to diversify.

(From World Bank (2000): "Can Africa claim the 21st Century?")

VI. WTO provisions give governments flexibility in managing trade-related adjustment

WTO members have two principal options for liberalizing their trade regimes in a non-preferential way—unilateral liberalization, and reciprocal liberalization in the context of a multilateral round of trade negotiations. The first option is generally limited to reductions in import barriers, and almost never involves the binding of tariffs at the new lower levels. Liberalization in the context of a multilateral round often involves, in addition to reductions in import barriers, the binding of many or all tariffs at new lower levels, *and* the acceptance of new rules, procedures and disciplines. The binding commitments provide for the stability and predictability of multilaterally negotiated liberalization but they also impose certain constraints on governments' trade and trade-related policies. In this Section we consider whether and how WTO commitments and disciplines may constrain Members' margin of manoeuvre with regard to the use of adjustment facilitating measures.

Three categories of provisions available to WTO Members for "managing" trade-related adjustment are considered:

- **transition periods** for phasing in liberalization, changing domestic legislation, and creating new institutions;

- **safeguard measures** that can be implemented when imports of a given product increase and cause serious injury to the domestic industry; and

- **subsidies** of certain kinds to ease the adjustment process.

Those provisions offer different forms of flexibility. Transition periods only provide for flexibility to deal with adjustment problems following liberalization but safeguards and provisions regarding subsidies also provide flexibility in case of adjustment problems following trade-related shocks. Transition periods are useful to cope with anticipated adjustment problems while safeguard measures provide flexibility in cases of unanticipated difficulties.

The WTO framework offers two additional tools for managing the adjustment process—which are quite straightforward and therefore not discussed in detail in this study—namely the options Members have, in some circumstances, to either exempt from the liberalization certain sectors or products where they anticipate serious adjustment problems, or to liberalize less in one sector in exchange for liberalizing more in another sector. The popularity of these two options is evident from the fact that liberalization

Box VI.1: Flexibility in trade negotiations: scope, exceptions and partial liberalization

The margin of manoeuvre of individual countries with regard to the agenda for negotiation and liberalization differed between rounds. Early rounds covered only tariffs. Only a limited number of countries participated, most of them developed countries. In the first five GATT tariff negotiating rounds, participants negotiated tariff reductions on an item-by-item basis.¹⁰⁵ Each country prepared a request list of products and tariff concessions desired as well as an offer list of concessions it was ready to make in return. These lists were negotiated bilaterally with trading partners. However, because concessions were to be applied on an MFN basis, participants who had reached a preliminary agreement on their mutual concessions would then each try to obtain other concessions from other partners who were to benefit from the concessions.

With the Kennedy Round (1964-1967), the coverage was extended to anti-dumping and the number of participants increased. The procedure for the negotiation of tariff cuts changed from the item-by-item approach used previously to a "linear cut" approach. Industrial countries were required to make an initial offer that included an across the board cut of 50 per cent for non-primary products plus a list of exceptions. Developing countries were allowed to opt out of the linear procedure.

The Tokyo Round (1973-1979) continued GATT's efforts progressively to reduce tariffs but negotiators also addressed a series of other topics. With regard to tariffs, participants chose to use a tariff-cutting formula, which could be applied across the board and which resulted in proportionally more reduction of the higher tariffs. Tariff cuts were phased in over a period of eight years. Members also negotiated arrangements and agreements on subsidies and countervailing measures, on technical barriers to trade, on import licensing procedures, etc. but they had the choice to subscribe to each of these agreements or not. Only a relatively limited number of Members decided to subscribe to these so-called "codes".

The Uruguay Round (1986-1994) was different from previous rounds in many respects. First, it was the largest trade negotiation ever, both in terms of the number of participants and in terms of its coverage. One hundred and twenty five countries participated and it covered almost all trade. Second, the single undertaking approach was adopted. Members could not subscribe to some of the Agreements only, they had to accept or to refuse the whole package. With both a broader agenda and the single undertaking, participants in the negotiation gave up one form of flexibility.¹⁰⁶ Flexibility could not take the form of opting out of some Agreements. If they feared they would encounter adjustment problems, Members had to negotiate other possibilities to accommodate to those problems.

¹⁰⁵ Concerning the first five rounds, see Curzon, G. (1965) *Multilateral Commercial Diplomacy*, Michael Joseph Ltd, London.

¹⁰⁶ As discussed below, participants in the negotiation abandoned the formula cut approach and adopted a combined item-by-item and sectoral negotiation approach.

under the GATT was and continues to be gradual, and from the number of tariff peaks that continue to characterize trade regimes around the world.

Another important theme developed in this section is the additional scope for managing adjustment that is available to developing countries, and in particular to the least-developed country Members.

A. Transition periods, implementation periods, deadlines

Most WTO Agreements contain more or less explicit provisions aimed at facilitating their introduction. The Marrakesh Protocol to the GATT and the Agreement on Agriculture for instance provide for progressive tariff cuts over several years, and the Agreements on Trade-related Investment Measures (TRIMs), on Trade-Related Aspects of Intellectual Property Rights (TRIPs), and on Subsidies and Countervailing Measures (SCM) contain transitional arrangements. Provisions regarding implementation periods and transitional measures differ significantly among Agreements. The length of implementation periods for instance is not the same for industrial tariff cuts, for agricultural tariff cuts, for the elimination of notified TRIMs, the elimination of grey-area measures, or the elimination of prohibited subsidy programmes. Implementation periods also differ between groups of Members. Developing countries are usually granted longer implementation periods.

1. Transition periods available to all Members

(a) Market-access commitments for goods

The Marrakesh Protocol to GATT 1994 states that the agreed tariff reductions shall be implemented in five equal instalments beginning on the date of entry into force of the WTO Agreement, that each successive reduction shall occur on 1 January of each of the following years, and that the final rate shall become effective no later than four years after the date of entry into force of the WTO Agreements.

There are many exceptions to this rule. First, the Marrakesh Protocol allows Members to specify in their schedules exceptions to the general rule of a four-year implementation period. A cursory look at Members' schedules suggests that some have used this possibility extensively, probably the most important exceptions involving implementation of tariff reductions in the textiles and clothing sectors. Several countries, both developed and developing, have chosen to implement the reductions on tariffs affecting these products in ten equal reductions instead of five, scheduling 2004 as the final implementation date for all or most of their textiles and clothing tariff lines. But these are not the only exceptions. Canada for instance has also indicated 2004 as the final implementation date for numerous 8-digit tariff lines.

The implementation period for the elimination of customs duties and other duties on information technology products is also

approximately four years. Participants were required to eliminate their duties through equal reductions beginning in 1997 and concluding in 2000.¹⁰⁷

Second, for agricultural products, Members agreed on both a longer implementation period and general obligations on the size of the cuts. For developed countries the Agreement on Agriculture requires a reduction of tariffs, over a six-year period beginning in 1995, by a simple average of 36 per cent, with the added requirement that cuts in individual rates must be at least 15 per cent.¹⁰⁸ As discussed below, developing countries had the possibility to reduce tariffs by less over a longer implementation period.

In other Agreements, the phasing out periods for obstacles to market access also varied in length. Under the Safeguards Agreement, the phasing out period for so-called "grey-area" measures—voluntary export restraints, orderly marketing arrangements, and any other similar measures on the export or import side—is four years (Members maintaining such measures were required to present timetables for their phasing out).¹⁰⁹ Under the Agreement on Subsidies and Countervailing Measures, developed country Members had to eliminate existing subsidy programs that were inconsistent with the provisions of the Agreement within three years of the date of entry into force of the WTO Agreement. And under the Agreement on Trade-Related Investment Measures, developed country Members had only two years to eliminate all such measures that were not in conformity with the Agreement.

(b) Market access commitments for services

The situation in the service sector is different. Whereas the concept of gradual "staged" liberalization of market access for a particular product is reasonably clear with regard to tariffs, it cannot be applied in a straightforward and systematic manner to obstacles to trade in services. For a specific sub-sector, certain modes of delivery might be liberalized before others and certain limitations might be bound progressively, but all trading modes are not equally important and all limitations do not have the same protectionist effect. There is, in other words, much more of an "all or nothing" dimension to the liberalization of trade in a particular service, which makes it difficult to evaluate progress in terms of liberalization in the services sectors.

This difference is reflected in the design of GATS provisions relating to the speed of liberalization. Part IV of the GATS is entitled "Progressive liberalization". Article XIX of Part IV states that Members shall enter into successive rounds of negotiations, beginning no later than five years from the date of entry into force of the WTO Agreement and periodically thereafter, with a view to achieving a progressively higher level of liberalization. In a sense, the GATS explicitly provides for gradual liberalization, only in this instance each stage corresponds to extending the coverage of bindings and requires a new negotiation. In principle, at each stage, governments also have the possibility to delay the implementation of specific liberalization measures. Article XX of

¹⁰⁷ See Ministerial Declaration on Trade in Information Technology Products, WT/MIN (96)/16.

¹⁰⁸ This implementation period also applies to reduction commitments on domestic support and export subsidies.

¹⁰⁹ The Safeguards Agreement permits one exception. Members were allowed to keep one single grey-area measure for five instead of four years but it was required to be mutually agreed and notified within 90 days of entry into force of the WTO Agreement. Only one Member took advantage of this option.

GATS states that schedules shall specify the date of entry into force of commitments but it also offers Members the possibility to specify “where appropriate, the time-frame for implementation of commitments”. In most cases however Members have not used the possibility to schedule transition periods. Commitments entered into force in 1995.¹¹⁰

In the schedules annexed to the fourth and, to a lesser extent, to the fifth protocol to the GATS Agreement, some governments have chosen to delay the entry into force of specific liberalization measures. In their schedule of concessions, Antigua and Barbuda for example have entered several measures limiting access to voice telephone services that will apply until 2012 but be eliminated thereafter. In the Schedule of specific commitments of the European Communities and its Members, delayed dates for the liberalization of telecommunications are indicated for Ireland, Spain, Portugal and Greece.¹¹¹ The Schedule of Commitments of Panama also provides for the progressive opening of the domestic telecommunications market over a period of 5 years starting on the date of accession. The presence of delays may be related to the fact that the sectoral nature of the negotiations on these topics did not allow the same flexibility in terms of coverage than a broader negotiation.

(c) Rules and obligations

The implementation of rules and obligations can involve adjustment effects like those induced by reductions in tariffs and quotas. They can also affect two other adjustments: changes in national legislation, and government investment—in particular in developing countries—in building up institutions and staff training. This was certainly the case with the TRIPS Agreement, but also with rules on customs valuation and rules on sanitary and phytosanitary measures.

Because adjustment to the new rules and obligations imposed by these Agreements was not expected to involve significant adjustment in the developed countries, there is no general implementation period available to all Members under the SPS or the Customs Valuation Agreements. The TRIPS Agreement provides for a one year implementation period following the entry into force of the WTO Agreement. As discussed below however, developing countries negotiated special implementation periods for each of the three agreements.

2. Additional flexibility for developing and least-developed countries

Extended implementation periods, together with technical assistance, are the principal new categories of special and differential treatment introduced in the Uruguay Round.¹¹² There is little doubt that flexibility in permitting transition periods played an important role in the conclusion of a number of Uruguay Round agreements.¹¹³ As for their justification, it is commonly assumed that they represented responses to special problems posed by the new disciplines for developing countries—in particular, weaknesses in institutional capacity and disproportionately large adjustment costs due to their often small and fragile manufacturing sectors.¹¹⁴

Developing countries had the possibility to bind their tariffs at ceiling levels, that is at levels above the currently applied rates. For industrial products, developing countries offered bindings without reductions on 24 per cent of their tariff lines, while the corresponding figure is 9 per cent for developed countries.¹¹⁵

The special and differential treatment provisions of the Agreement on Agriculture offered developing countries the flexibility to apply lower rates of reduction—liberalize less—in the areas of market access, domestic support and export competition. However, the rate of reduction in each case had to be no less than two-thirds of the one applied to developed countries.¹¹⁶ Article 15 of the Agriculture Agreement also offers developing countries the flexibility to implement reduction commitments over a period of up to ten years instead of six. Least developed countries had even more flexibility, as they were not required to undertake any reduction commitments for agricultural products.

There are 18 cases where developing countries benefit from additional flexibility in the form of longer implementation periods across eight WTO Agreements. Table VI.1 lists the 16 of those cases for which implementation data exist. The extent to which developing country Members have made recourse to transitional time periods varies across the range of agreements: for instance, while 56 developing country Members have had recourse to transitional time periods under Article 20.1 of the Customs Valuation Agreement, no requests for time limited exemptions have been made under the SPS or the TBT Agreements.

¹¹⁰ There are some exceptions. The United States for instance entered a delay for the liberalization of road transport of passengers until January 1, 2001.

¹¹¹ While the fourth protocol to the GATS entered into force on January 1, 1998, Ireland for example was allowed to delay the liberalization of public telephony and facilities based services until 1.1.2000 and Greece until 1.1.2003.

¹¹² Special and Differential Treatment consists of 145 provisions spread across the WTO Agreements. The WTO Secretariat has developed the following six-fold typology to classify the provisions: (i) provisions aimed at increasing the trade opportunities of developing country Members; (ii) provisions under which WTO Members should safeguard the interests of developing country Members; (iii) flexibility of commitments, of action, and use of policy instruments; (iv) transitional time periods; (v) technical assistance; (vi) provisions relating to least-developed country Members. See WT/COMTD/W/77.

¹¹³ See Michalopoulos (2000).

¹¹⁴ Based on his examination of the evolution of special and differential treatment, Whalley (1999) concluded that the focus of special and differential treatment in the Uruguay Round was on responding to special adjustment difficulties in developing countries stemming from the implementation of WTO rules and disciplines. However, he also observed that while their motivation was relatively clear, the special and differential treatment decisions taken in the Uruguay Round were largely ad hoc and that they lacked an integrated intellectual structure. He therefore suggested that a careful analysis of the link between specific problems and specific S&D measure may be a central challenge in the perspective of further negotiations. See also Section IV and Michalopoulos (2000).

¹¹⁵ Source WTO (1994). For developed countries, the bindings without reductions are primarily concentrated in developed Asia.

¹¹⁶ See Modalities for the establishment of specific binding commitments under the reform program [MTN.GNG/MA/W/24].

Table VI.1: Implementation and transition periods

	Developed countries	Developing countries	Least developed countries
Reduction of tariffs on industrial products	gradual over 4 years with flexibility		
Reduction of tariffs on agricultural goods	gradual over 6 years	gradual over 10 years	no reduction commitments
Elimination of tariffs on information technology products under the ITA	gradual over 4 years but, in principle, possibility to opt out		
Reduction of agricultural export subsidies	gradual over 6 years	gradual over 10 years	no reduction commitments
Reduction of agricultural domestic support	gradual over 6 years	gradual over 10 years	no reduction commitments
Elimination of quotas on textiles	gradual over 10 years		
Implementation of obligations under the TBT Agreement	time limited exceptions can be granted upon request		
Implementation of obligations under the SPS Agreement		time limited exceptions can be granted on request; may delay implementation up to 2 years	time limited exceptions can be granted on request; may delay implementation up to 5 years
Obligations under the Agreement on customs valuation ¹¹⁷		5 year delay on implementation plus additional delay for application of specific provisions	
Implementation of obligations under the Agreement on Import Licensing Procedures		2 year delay	
Implementation of obligations under the SCM Agreement		prohibition of subsidies contingent upon export performance applies only after 8 years	prohibition of subsidies contingent upon export performance does not apply
		prohibition of subsidies contingent upon the use of domestic over imported goods applies only after 5 years	prohibition of subsidies contingent upon use of domestic over imported goods applies only after 8 years
		if countries reach export competitiveness in any given product, subsidies must be phased out over 2 years	if countries reach export competitiveness in any given product, subsidies must be phased out over 8 years
Agreement on Safeguards	grey-area measures must be eliminated within a period not exceeding 4 years according to agreed-upon timetable (exception: one single measure can be phased out over 5 years)		
	safeguard measures pre-existing must be eliminated no later than 8 years after the date on which they were first applied or 5 years after entry into force of WTO Agreements		
	new safeguard measures can be kept for a maximum of 8 years	new safeguard measures can be kept for a maximum of 10 years	
Obligations under the GATS	immediate implementation with flexibility to delay		
Implementation of obligations under the TRIMs Agreement	2 years	5 years + 1 if difficulties	7 years + 1 if difficulties
Implementation of obligations under the TRIPs Agreement	1 year	5 years + 5 for patents in new areas	10 years

¹¹⁷ For more detail, see WT/COMTD/W/77.

Extending the transition periods

The drafters of the WTO Agreements were wary of extending transition periods. Footnote 4 in Article XI of the Marrakesh Agreement states: "A decision to grant a waiver in respect of any obligation subject to a transition period or a period for staged implementation that the requesting Member has not performed by the end of the relevant period shall be taken only by consensus." Nevertheless, several Uruguay Round Agreements offer developing countries the possibility to request extensions of transition periods as part of special and differential provisions. Agreements which offer this possibility include: the TRIMs Agreement, the Agreement on Subsidies and Countervailing Measures, and the Agreement on Implementation of Article VII (customs valuation).

The extension of transitional time periods for developing countries has recently been discussed in the WTO. During the preparatory process for the Third WTO Ministerial Conference in Seattle, a number of developing countries put forward a wide range of proposals dealing with their perceived problems in the implementation of WTO Agreements. Among those, many called for an extension of the transition periods to comply with some agreements. The expiry of several transition periods at the end of 1999 gave additional impetus to the debate on the implementation of Uruguay Round Agreements and in particular the extension of transition periods. In at least two cases, the TRIMs and the Customs Valuation Agreements, requests for extensions were submitted before 1 January 2000 which had to be approved by other WTO Members.

In the case of the Customs Valuation Agreement, Annex III of the Agreement on the implementation of Article VII of GATT 1994 stipulates that if the five-year delay in the application of the provision of the Agreement by developing country Members provided for in Article 20 is insufficient in practice for certain developing country members, they may request an extension of this period. A total of 22 Members requested an extension of the transition period.¹¹⁸

Similarly, Article 5 of the TRIMs Agreement offers developing countries the possibility to apply for an extension of the transition period in respect of previously notified TRIMs if they can demonstrate particular difficulties in implementing the provisions of the Agreement. Nine out of the 26 Members who have submitted notifications under Article 5.1, have filed requests for additional time to comply with TRIMs provisions.¹¹⁹ The length of

the requested extensions ranges from five months to seven years. Most countries are seeking to preserve domestic content and other investment restrictions aimed at promoting local auto and auto parts manufacturing. It is interesting to note that the motivation for extending the implementation period as spelled out in the requests is often that the industry needs more time to adjust. For example, in Argentina's request for the extension of the transition period for the elimination of a previously notified TRIM, the argument was that the Argentine automotive industry still needed more time to complete the gradual process of *adjustment* and restructuring begun in 1995.¹²⁰ It was therefore requested that the TRIM protecting the industry be extended to 31 December 2006. Similarly, Romania's request claimed that an extension of the transition period would provide the industry the indispensable *adjustment* period to institute progressive structural reforms and to enhance capability programmes in preparation for even further trade regime liberalization.¹²¹ All developing countries who made requests were given two additional years to phase out their TRIMs, with the possibility to prolong the extension by another two years.

The issue of the transition period for the elimination of export subsidies has received an increasing amount of attention in the implementation debate since September 2001. Under Article 27.4 of the Agreement on Subsidies and Countervailing Duties, any developing country Member referred to in Article 27.2(b) must phase out its export subsidies within the eight year period following the entry into force of the WTO Agreement (i.e. by 31 December 2002), preferably in a progressive manner.¹²² However, a developing Member who deems it necessary to apply such subsidies beyond the eight-year period had, not later than one year before the expiry of this period (i.e. not later than 31 December 2001) to enter into consultation with the Committee, which is to determine whether an extension of this period is justified, after examining all the relevant economic, financial and development needs of the developing country Member in question.

Having regard to the particular situation of certain developing-country Members, the Ministerial Conference in Doha directed the Committee on Subsidies and Countervailing Measures to extend the transition period, under the rubric of Article 27.4, for certain export subsidies provided by such Members, in accordance with a set of "fast-track" procedures spelled out in document G/SCM/39.¹²³ Twenty-four Members have made requests or reserved rights on the basis of this "fast-track" procedure.¹²⁴ The

¹¹⁸ Bahrain, Bolivia, Burundi, Cameroon, Côte d'Ivoire, Dominican Republic, El Salvador, Egypt, Guatemala, Haiti, Jamaica, Kuwait, Mauritania, Maldives, Myanmar, Paraguay, Rwanda, Senegal, Sri Lanka, Tanzania, Tunisia, and UAE.

¹¹⁹ The nine countries are: Argentina, Chile, Colombia, Malaysia, Mexico, Pakistan, the Philippines, Romania, and Thailand.

¹²⁰ (G/C/W/176).

¹²¹ (G/C/W/175).

¹²² During that eight-year period, a developing country Member shall not increase the level of its export subsidies, and shall eliminate them within a shorter period when the use of such export subsidies is inconsistent with its development needs.

¹²³ Programmes eligible for extension pursuant to these procedures, and for which Members shall therefore grant extensions for calendar year 2003, are export subsidy programmes (i) in the form of full or partial exemptions from import duties and internal taxes, (ii) which were in existence not later than 1 September 2001, and (iii) which are provided by developing country Members (iv) whose share of world merchandise export trade was not greater than 0.10 per cent, (v) whose total Gross National Income ("GNI") for the year 2000 as published by the World Bank was at or below US\$ 20 billion, (vi) and who are otherwise eligible to request an extension pursuant to Article 27.4, and (vii) in respect of which these procedures are followed.

¹²⁴ Requests were made by Antigua and Barbuda, Barbados, Belize, Bolivia, Costa-Rica, Dominica, Dominican Republic, El Salvador, Fiji, Grenada, Guatemala, Honduras, Jamaica, Jordan, Kenya, Mauritius, Panama, Papua New Guinea, Sri Lanka, St Kitts and Nevis, St Lucia, St Vincent & Grenadines, Suriname, and Uruguay. In addition, Bolivia, Honduras, Kenya and Sri Lanka reserved their rights as Members listed in Annex VII(b) to use fast-track procedures if they graduate during the fast-track extension period.

Committee is reviewing those requests, and provided that the programmes notified pursuant to the procedures in G/SCM/39 meet the eligibility criteria and transparency requirements set forth therein, Members of the SCM Committee shall grant extensions on a year by year basis, subject to annual review, until the end of 2007 with then a final two-year phase-out (i.e., through the end of 2009), unless a further extension on the basis of Article 27.4 alone is requested and approved. In addition to the fast-track requests, the Committee has received and is considering five other requests, based on Article 27.4.¹²⁵

The length of transition periods is only one of the elements addressed in the implementation debate but it is the one that is most closely related to adjustment problems. In many cases, proposals go beyond genuine implementation problems in the sense of difficulties experienced with the compliance of existing agreements. Some of the concerns expressed in the proposals relate to what a number of developing countries see as inadequate implementation by developed countries of provisions requiring them to undertake positive actions in favour of developing countries. Others relate to the best endeavours or non-operational nature of many special and differential treatment provisions in WTO Agreements. A third group of concerns relates to alleged abuses of certain provisions of the Agreements, and to the lack of expected market opening in areas of export interest to developing countries. Finally, many proposals aim at modifying provisions in the existing agreements to rebalance the obligations. Many proposals do not really reflect problems that proponent countries may have with adjustment but rather their perception that the agreements are inequitable in the sense that they do not reflect adequately the concerns of developing countries.

B. Safeguard measures

The discussion thus far has focused on provisions—in particular transition periods for reducing import barriers, revising domestic legislation and setting up new institutions—which offer Members some flexibility to cope with *anticipated* adjustment problems. Obtaining an *ex post* extension of the transition period would be an option for dealing with unanticipated adjustment difficulties, except that, as noted above, for developed countries the possibility of obtaining extensions is strictly regulated by footnote 4 to the Marrakesh Agreement, while only a few agreements explicitly offer developing countries the possibility of requesting *ex post* an extension of a transition period.

The focus of this section, therefore, is on measures which offer Members the possibility to react *ex post* to problems caused by unforeseen import surges.¹²⁶ Such measures are traditionally

termed “safeguards”, and include temporary tariff increases or quantitative restrictions. The general view is that without the safety-valve provided by safeguards, governments might be reluctant to liberalize in sectors where there is uncertainty concerning the adjustment process that will follow the liberalization.

Various WTO provisions correspond to this broad definition of safeguards. First, the GATT/WTO framework permits emergency actions under Article XIX and the Agreement on Safeguards, and in addition provides specific safeguard clauses for agriculture and textiles and clothing.¹²⁷ Second, it offers the possibility to impose restrictions to safeguard the balance-of-payments under Articles XII (developed countries) and XVIII.B (developing countries).¹²⁸ Third, there is the possibility to renegotiate tariffs under Article XXVIII.¹²⁹

Among the three provisions, the one most clearly targeted at adjustment problems is safeguard measures under the Agreement on Safeguards and Article XIX. The balance-of-payments provisions can only be used in reaction to an unsustainable deterioration in a country’s external financial position, and not in reaction to sector-specific adjustment problems. Renegotiation generally is not the most appropriate response to a transitional adjustment problem—which is by nature temporary—since renegotiation is a permanent and not a temporary measure. Two other contingent protection instruments, namely anti-dumping measures and countervailing duties are available to WTO Members. Those two provisions, are in principle responses to “unfair” trade practices and thus do not have the same objective as safeguards. However, firms facing adjustment difficulties might prefer to use the anti-dumping procedure rather than a safeguard.

1. Article XIX and the Agreement on Safeguards

The Uruguay Round Agreement on Safeguards, which applies cumulatively with Article XIX of GATT 1994, elaborates on and tightens the Article XIX rules on the use of safeguard measures, re-establishes multilateral control over safeguards and eliminates measures that escape such control. It also explicitly refers to *structural adjustment* in its Preamble and creates certain mechanisms to address that goal. Article 5 states that safeguard measures shall be applied only to the extent necessary to prevent or remedy injury and to facilitate *adjustment*. Also, evidence of *adjustment* is necessary to justify extending a measure (Article 7.2) and progressive liberalization is intended to facilitate *adjustment* in cases of measures originally imposed for longer than one year (Article 7.4).

There are five elements in the Agreement on Safeguards. The first sets out the requirements that must be fulfilled before a

¹²⁵ Those requests were made by Colombia (in part invoking the language in paragraph 10.6 of the Ministerial Decision on Implementation-Related Issues and Concerns (WT/MIN(01)/17) to seek treatment equivalent to that under the fast-track procedures for its programmes of the same type as those covered by the fast-track procedures, and in part on the basis of Article 27.4 alone), El Salvador and Panama, (in respect of their programmes other than those of the type eligible for the fast-track procedures), Thailand, and Uruguay (for the same programme as covered by its fast-track request).

¹²⁶ The discussion here is limited to surges in merchandise imports. Concerning services, see WTO (2000) Post Uruguay Round Market Access, which gives an overview of the current negotiations on the question of emergency safeguard measures.

¹²⁷ GATS Article X mandates Members to undertake multilateral negotiations on the question of emergency safeguard measures based on the principle of non-discrimination. Negotiations are underway.

¹²⁸ GATT Article XVIII.C also makes provision for “infant industry” protection for developing countries. This provision has been little used and is not analyzed further in this text. Current discussions on special and differential treatment, however, suggest that this provision may be subject to closer attention and greater use in the future.

¹²⁹ Modification of GATS schedules is possible in accordance with the provisions of Article XXI.

safeguard measure can be applied. The second sets out the rules that govern the application of safeguard measures. The third concerns the compensation action to which such measures may give rise. The fourth provides for the elimination of pre-existing grey-area measures and the ban on their future use. The fifth element finally provides the necessary machinery to ensure that the Agreement functions effectively.

Under the Agreement on Safeguards, a Member must determine that increased quantities of imports are causing or threatening to cause serious injury to the domestic industry producing like or directly competitive products. There is no requirement on who may seek relief, or on the initiation of investigations. The determination must result from a proper investigation by the authorities based on published procedures. Unlike Article XIX, the Agreement on Safeguards does not explicitly require that the increase of imports be the result of unforeseen developments or the effect of obligations under the GATT.¹³⁰ Because Article XIX and the Safeguards Agreement apply cumulatively, however, unforeseen developments still exist as a necessary "circumstance" to be fulfilled if a safeguard is to be allowed.¹³¹ Serious injury is defined to mean "significant overall impairment" of the domestic industry's position and a "domestic industry" is defined as "the producers as a whole of the like or directly competitive products operating within the territory of a Member, or those whose collective output of the like or directly competitive products constitutes a major proportion of the total domestic production of those products."

Article 4.2 (a) specifies that "in the investigation to determine whether increased imports have caused or are threatening to cause serious injury to a domestic industry, [...] the competent authorities shall evaluate all relevant factors of an objective and quantifiable nature having a bearing on the situation of that industry, in particular, the rate and amount of the increase in imports of the product concerned in absolute and relative terms, the share of the domestic market taken by increased imports, changes in the level of sales, production, productivity, capacity utilization, profits and losses, and employment."

The use of remedies is governed by the principle that they should be applied to a product being imported irrespective of its source, except products from developing countries that are below certain levels of import share (Article 9.1), and only to the extent necessary to prevent or remedy serious injury and to facilitate adjustment. The Agreement defines some limits regarding the allocation of quotas among suppliers, but allows limited departure

from MFN in the form of quota modulation (Article 5.2 (b)). It also establishes a limit on the duration of safeguard measures. The standard limit on duration is four years, which may be extended to a maximum of eight years if it has been determined under the Agreement's procedures that continuation is necessary and that the industry is *adjusting*. Moreover, if the measure is applied for more than one year, it must be progressively liberalized throughout the period of application, and if its duration is more than three years there must be a mid-term review which shall, if appropriate, lead to its withdrawal or more rapid liberalization.

Developing countries are given more flexibility in two ways: the maximum duration of a safeguard measure, including extension, is two years longer than for developed countries (that is four plus six at a maximum) and they are allowed to re-impose a safeguard after a period of non application that is shorter than for developed countries.

The rules concerning compensation have also been changed from those in Article XIX. The Member imposing the safeguard measure consults with those Members which have a principal supplier interest. Failing agreement the affected exporter can retaliate but its right to do so is not unlimited. No compensation however can be required during the first three years in cases where a safeguard is imposed following an absolute increase in imports.

Table VI.2 below presents information on notifications of initiations of safeguard investigations. Note that 33 of the 94 investigations listed in Table VI.2 are ongoing and that 29 "definitive", as opposed to provisional, safeguard measures were in place in July 2002.¹³²

Bearing in mind that safeguard measures may be broader in scope than anti-dumping measures, and that when considering anti-dumping actions, each product/country combination is counted as an investigation, while a single safeguard investigation covers imports from all sources, it is interesting to note that the figure of approximately 73 safeguard investigations initiated over the period 1995 to 2001 compares to a total of 1845 anti-dumping investigations launched during the same period.¹³³

The figures in Table VI.2 show that only about 18 per cent of the Members have notified actions under the Safeguards Agreement, and that each of the Members who have notified actions have only notified a relatively small number of investigations. Developing countries as well as transition and developed countries have made use of the Agreement. The two main users so far have been India and the United States.

¹³⁰ From a theoretical point of view, the fact that changes are "unforeseen" is crucial for justifying ex-post increases in protection. This raises the issue of what "unforeseen" exactly means. In its Korea - Dairy Report, the Appellate Body draws a distinction between foreseen and foreseeable, and concludes that "foreseen-ness" is what is at issue. This approach seems to be more factual. Trying to determine what is foreseeable would seem to be more theoretical and speculative.

¹³¹ See Appellate Body Reports on Argentina - Footwear (WT/DS121/AB/R) and Korea - Dairy (WT/DS98/AB/R).

¹³² In 14 cases, the decision on applying a definitive measure was negative. Five definitive measures have been terminated before cut-off date. Information is not available on the status of 13 initiated investigations.

¹³³ One explanation for the relatively limited use of safeguards is based on the idea that governments did not use safeguards because using safeguards is costly and there are other instruments which achieve a better result or a similar result at lower cost. In other words, governments prefer to use other measures to react to import surges. Where bound rates are much higher than applied tariff rates, governments could for instance raise applied tariffs without violating their commitments. Supporters of this explanation see a link between on the one hand the prohibition of "grey-area measures", and the discipline imposed on the use of safeguards, and on the other hand, the surge in the use of anti-dumping measures. They claim that safeguards are not used because governments prefer to use anti-dumping measures to react to import surges, mainly because, as discussed below, anti-dumping is a targeted remedy which imposes no compensation or adjustment constraints while safeguards are by nature a multilateral instrument which restricts imports from all origins and which imposes compensation (even if it is only after three years) and adjustment.

Table VI.2: Number of notifications of initiations of safeguard investigations, 1995-2002

	1995	1996	1997	1998	1999	2000	2001	2002*	Total
India			1	5	3	2		1	12
United States	1	2	1	1	2	2	1		10
Chile					2	3	2	2	9
Jordan						1		7	8
Czech Republic					1	2	1	3	7
Venezuela						3	2		5
Korea	1	2			1				4
Argentina			1	1		1	1		4
Bulgaria						1	1	1	3
Egypt				1	1	1			3
El Salvador						3			3
Japan						3			3
Philippines							3		3
Poland						1		2	3
Brazil		1					1		2
Ecuador					2				2
Latvia					1			1	2
Morocco						2			2
Slovak Republic					1	1			2
Australia				1					1
Canada								1	1
Colombia					1				1
Costa Rica								1	1
European Comm.								1	1
Hungary								1	1
Slovenia				1					1
Total	2	5	3	10	15	26	12	21	94
<i>Memorandum item</i>									
Total number of anti-dumping initiations	156	224	243	250	356	281	330	NA	1,845

* See cut-off date.

Cut-off date for the information on safeguards: 30 July 2002.

Source: WTO secretariat, Rules Division, *Summary of notifications of initiations and outcomes of safeguard investigations and of applications of safeguard measures since 1 January 1995*.

Table VI.3 below lists the products for which Members have notified initiations of investigations. It shows first that safeguards have been used both for agriculture and industry. It also shows that safeguards have been used in various types of industries. Among the main users, India and Venezuela have used safeguards only for industrial products while the United States, Chile, Jordan, and the Czech Republic, have used safeguards for both industrial and agricultural products.

With regard to the adjustment facilitation role of the Safeguards Agreement, it seems evident that the kind of adjustment the drafters of the Agreement wished to facilitate is the restructuring of industries hurt by import competition, rather than the reallocation of resources released by the contraction of

the import competing sectors. If a government prevents or remedies an impairment in the position of import competing industries, factors of production have no incentive to move and thus there is no reallocation of resources from less efficient to more efficient activities.¹³⁴

An examination of the use of safeguards notified to the WTO confirms the idea that governments use safeguards as a means to offer breathing space to an industry facing import competition, rather than as a means to slow down liberalization to facilitate the exit of workers from that industry. First, some notifications explicitly refer to adjustment in the sense of improving competitiveness.¹³⁵ Also countries' safeguard legislation often requires domestic industries petitioning for an investigation to provide an

¹³⁴ It is also interesting to note that the prerequisite for the application of safeguards does not include the demonstration that governmental intervention is required. As discussed in Section IV B and V above, there may be a second best argument for government intervention to facilitate adjustment if (a) some market failure prevents the market from delivering the optimal outcome, and (b) the first best government intervention is impossible. The investigation, as prescribed in Article 4, does not focus on either of these issues.

¹³⁵ See for instance India's notification concerning a safeguard for the Acetone industry in which it is stated that: "The purpose of imposition of safeguard duty is to provide time to the domestic industry to make positive adjustment to meet with the new situation of competition offered by the increased imports." (G/SG/N/8/IND/8). See also the Venezuelan notification (G/SG/N/1/VEN/2).

Table VI.3: Initiations of investigations under the Agreement on Safeguards by country and product – 1995-2002

	Industrial products	Agricultural products
Argentina	- Footwear - Toys - Motorcycles	- Peaches
Australia		- Swine meat
Brazil	- Toys	- Coconuts
Bulgaria	- Non aqueous ammonium nitrate - Corks - Ammonium nitrate	
Chile	- Tyres - Socks (synthetic and cotton) - Steel - Lighters	- Wheat, wheat flour, cane/beet sugar, vegetable oils - Liquid and powdered milk - Mixed oils - Glucose
Colombia	- Taxis	
Costa Rica		- Rice
Czech Republic	- Footwear - Citric acid - Wires, ropes and cables - Tubes and pipes	- Cane/beet sugar - Isoglucose - Cocoa powder
Ecuador	- Sandals - Matches	
Egypt	- Safety matches - Common fluorescent lamps	- Powdered milk
El Salvador	- Fertilizers	- Pork - Rice
European Communities	- Steel	
Hungary	- Steel	
India	- Acetylene Black - Carbon Black - Slabstock polyol - Propylene glycol - Hardboard - Styrene Butadiene Rubber - Phenol - Acetone - White/Yellow Phosphorus - Gamma ferric oxide / magnetic iron oxide - Methylene chloride - Epichlorohydrin	
Japan		- Tatami-Omote - Welsh Onion - Shiitake mushrooms
Jordan	- Magnetic tapes - Tiles - Cooking appliances - Electronic accumulators - Sinks	- Biscuits / chocolates - Pasta
Korea	- Bicycles and parts	- Soybean oil - Dairy products - Garlic
Latvia		- Swine meat - Pork

	Industrial products	Agricultural products
Morocco	- Rubber plates and sheets	- Bananas
Philippines	- Grey Portland cement - Ceramic floor tiles	- Tomato paste
Poland	- Potassium nitrate - Calcium carbide - Steel	
Slovak Republic		- Swine meat - Sugar
Slovenia		- Swine meat
United States	- Brooms - Steel wire rod - Line pipe - Crab meat - Extruded rubber thread - Certain steel products	- Tomatoes - Tomatoes and peppers - Wheat gluten - Lamb meat
Venezuela	- Cold rolled steel - Hot rolled steel - Tyres - Paper - Iron/steel U sections	

Cut-off date for the information on safeguards: 30 July 2002.

Source: WTO secretariat, Rules Division, *Summary of notifications of initiations and outcomes of safeguard investigations and of applications of safeguard measures since 1 January 1995*.

adjustment plan.¹³⁶ Compared to Article XIX of GATT 1947 and the pre-Uruguay Round situation, the current provisions under Article XIX and the WTO Agreement on Safeguards are more explicitly designed to facilitate adjustment. They impose tighter disciplines in this area but simultaneously reduce obstacles to the use of safeguards for adjustment facilitation purposes. Article XIX, despite the fact that it does not refer to adjustment, offered governments the possibility to facilitate adjustment in liberalized industries and in particular their restructuring. The new regime leaves less scope for reactions to import surges that escape multilateral control. The Agreement on Safeguards for instance explicitly prohibits the use of VERs in reaction to increased imports. The new regime also tends to discourage the use of safeguards for purposes different than adjustment facilitation by strengthening certain disciplines. The Agreement for example imposes restrictions on the duration of safeguards, and submits extensions of the duration to the requirement to show that adjustment is taking place. It also contains provisions concerning the progressive liberalization and limits on the remedies. Under the previous regime, if the prerequisites were established, governments were allowed to go beyond simply slowing down the liberalization process or just reverting to the pre-liberalization situation. Also, there were no time limits, and in practice safeguard measures tended to become permanent which is certainly not required for adjustment purposes. In a sense, governments were allowed to “prevent” injury to the domestic industry competing with imports, that is they were allowed to durably prevent the reallocation of resources. Finally, as a compensation for the tightening, the new

regime offers an incentive to the use of safeguards in the form of three years for free, that is three years without any obligation to compensate. In a sense, the Agreement on Safeguards reduces the size of the loophole to allow only for measures that are really designed to facilitate adjustment.

2. Other specific safeguards

There is a special safeguard provision in the Uruguay Round Agreement on Agriculture which is available to countries which have reserved the right to invoke this clause by designating products in their Schedules. Article 5 states that for products whose non-tariff restrictions have been converted to tariffs, governments can impose additional duties if either the volume of imports of that product increases above a certain threshold, or the price of imports of that product falls below a trigger price. The level at which the thresholds can be set is explicitly mentioned in Article 5, along with limits on both the level of the additional duty that can be imposed and the period during which it can be maintained.¹³⁷

The main differences from the mechanism set out in the Agreement on Safeguards are the following. First, the special agricultural safeguard provision can remain in place only for the duration of the reform process (its purpose is to offer a guarantee to Members that the tariffication process will not result in an import surge). Second, the special agricultural safeguard does not require the complainant to show that imports caused injury. Third, unlike the “general” safeguard which is largely an *ex post* emergency

¹³⁶ See for example Thailand's legislation (G/SG/N/1/THA/2).

¹³⁷ In the case of the volume trigger, the higher duties only apply until the end of the year in question. In the case of the price trigger, any additional duty can only be imposed on the shipment concerned. The additional duties cannot be applied to imports taking place within tariff quotas.

measure, the special agricultural safeguard requires governments to decide *ex-ante* where they are likely to encounter adjustment difficulties. Thirty-eight countries, including developing and transition countries as well as developed countries, have reserved the right to apply the special safeguard. Fourth, whereas safeguards applied under the Safeguards Agreement must be applied to imports irrespective of their source, additional duties under the special safeguard mechanism can be applied to specific shipments.

Like safeguards imposed under the Agreement on Safeguards, the special safeguard essentially offers breathing space to producers. It may be used to delay liberalization, but it is not specifically designed to facilitate the reallocation of resources that may become unemployed as a result of increased import competition.

The actual use of the special safeguard has been limited to date. As can be seen in Table VI.4, it was used by just nine

Table VI.4: Use of the Special Agricultural Safeguard mechanism

A. Price-based special agricultural safeguard. Action by Member and product category, 1995-2001 (Number of tariff items)

	CE	OI	SG	DA	ME	EG	BV	FV	TO	FI	CO	OA	ALL
1995													
EC			10		1	1							12
Japan	1			2									3
Korea	1	2											3
United States	1	1	2	13			1				6		24
Total	3	3	12	15	1	1	1				6		42
1996													
EC			10		4								14
Japan								1					1
Korea	3	2											5
Poland												2	2
United States	4		7	24				2		1	11		49
Total	7	2	17	24	4			3		1	11	2	71
1997													
EC				10	4								14
Korea	1	2						2					5
Poland			1									2	3
United States	3	1	11	34				2			23		74
Total	4	3	12	44	4			4			23	2	96
1998													
EC			9		3								12
Japan	1										1		2
Korea	2	1						2					5
Poland	1											4	5
United States	5		11	35			1	2			20		74
Total	9	1	20	35	3		1	4			21	4	98
1999													
Costa Rica	3							1					4
EC			9		4								13
Hungary			7										7
Japan	4			1				2			1		8
Poland	4		2		96							4	106
Switzerland					7								7
United States	2		3	25	2		1	2					35
Total	13		21	26	109		1	5			1	4	180
2000													
Japan	1			2				1					4
Poland	2							1			1	3	7
Total	3			2				2			1	3	11
2001													
Poland								3					3
Total								3					3

<u>Code</u>	<u>Product category</u>	<u>Code</u>	<u>Product category</u>
CE	Cereals	FV	Fruit and vegetables
OI	Oil seeds, fats and oils and products	TO	Tobacco
SG	Sugar and confectionery	FI	Agricultural fibres
DA	Dairy products	CO	Coffee, tea, mate, cocoa and preparations
ME	Animals and products thereof		Spices and other food preparations
EG	Eggs	OA	Other agricultural products
BV	Beverages and spirit		

B. Volume-based special agricultural safeguard. Actions by Member and product category, 1995-2001 (Number of tariff items)

	CE	OI	SG	DA	ME	EG	BV	FV	TO	FI	CO	OA	ALL
1995													
Japan										5			5
Total										5			5
1996													
EC								47					47
Japan	1			14	41					5			61
Total	1			14	41			47		5			108
1997													
EC								46					46
Japan	1			4									5
Korea	2												2
Poland								1					1
Slovak Republic											1		1
Total	3			4				47			1		55
1998													
EC								27					27
Japan	1			2									2
Korea	1											1	2
Poland						1							1
United States						6							6
Total	2			2		6		27				1	38
1999													
EC								27					27
Japan	1			2									3
Poland												1	1
Total	1			2				27				1	31
2000													
Japan	1			3									4
Poland				1								2	3
Total	1			4								2	7
2001													
Czech Republic						4						1	5
Japan	2			3									5
Poland	1												1
Total	3			3		4						1	11

Cut-off date: 11 February 2002.

Source: WTO Secretariat (G/AG/NG/S/9/Rev.1).

countries between 1995 and 2001. The special safeguard was triggered where only minimal quantities of (non-tariff quota) imports were taking place.¹³⁸

Another special safeguard mechanism is the “transitional safeguard” provided under Article 6 of the Agreement on Textiles and Clothing, intended to protect Members against damaging surges in imports during the transition period for products not yet integrated into WTO rules. This safeguard allows bilateral quotas under very strict rules and for limited time periods.

With regard to the prerequisites, the provisions set out in Article 6 are similar to those in the Agreement on Safeguards. Article 6, for instance, also requires the complainant to demonstrate that increased imports are causing serious damage or actual threat thereof. There are also similarities with regard to the duration of the safeguards. Under Article 6, measures can be maintained for up to three years without extension, or until the product is integrated into GATT 1994, whichever comes first. And if the measure remains in force for a period exceeding one year, it must be progressively relaxed. But there are also differences between the two mechanisms. For instance, unlike the remedies under the Safeguards Agreement, transitional textile safeguards must be applied on a Member-by-Member basis.

From an adjustment perspective, the transitional safeguard has the same characteristics as the Article XIX safeguard. Its objective is to offer breathing space to the industry having difficulties as a result of trade liberalization. The considerations of the Textiles Monitoring Body (TMB) concerning the case of a safeguard introduced provisionally by Brazil on imports from Hong-Kong in 1996, support this view.¹³⁹ In this case, the TMB observed that there were indications to the effect that the Brazilian industry in question had already been undertaking important restructuring and adjustment, in light of which the TMB considered that a shorter period of time than the maximum should enable the industry in Brazil to successfully accomplish its adjustment to the changed competitive environment. Although the report explicitly mentions the fact that developments regarding employment could point at difficulties with restructuring, nowhere the evolution of unemployment is mentioned. The TMB took a similar decision with respect to a transitional safeguard measure imposed by Argentina on imports from Pakistan in 1999.

The use of the transitional safeguard has been limited in practice. As can be seen in Table VI.5, the transitional Safeguard was only used by 5 countries between 1995 and 2001.

3. Differences between safeguards and other contingent protection instruments

Anti-dumping measures are a response to injury caused by imports that are dumped, that is sold in the importing market at a price below the price of the goods in the market of the exporter, while safeguards are a response to injury caused by increased total imports. In principle, the two instruments do not have the same objective. Anti-dumping measures are intended to eliminate an unfair price advantage, while safeguards are intended to provide a shelter from an import surge while improving competitiveness. As a matter of fact however, firms or industries facing strengthened competition from imports have incentives to use any possible means to protect themselves. In particular, it is not impossible that firms facing adjustment difficulties might prefer to use the anti-dumping procedure rather than to apply for a safeguard. A firm’s decision very much depends on the requirements for application in both cases and on the remedies available.

One important difference at least in theory between anti-dumping measures and safeguards is that anti-dumping actions are justified on the ground that dumping is an “unfair” practice that results in “unfair” trade while safeguards are justified for imports that are perfectly “fair”. This distinction explains some of the differences between the provisions regarding anti-dumping and those regarding safeguards.

First, as could be expected on the ground that anti-dumping procedures are responses to “unfair” practices, there is no compensation requirement associated with the use of anti-dumping. Second, unlike safeguards which must be applied on a non-discriminatory basis, anti-dumping actions must be targeted not only at imports from particular countries but at imports from individual firms. Third, in the anti-dumping case, the investigation must determine that imports are being dumped, and that this dumping causes or threatens to cause *material*, rather than *serious*, injury to the domestic industry. The Agreement on Implementation of Article VI sets out the procedure for the determination of dumping. It has been often claimed however

Table VI.5: Number of requests for using the transitional safeguard measure 1995-2001

	1995	1996	1997	1998	1999	2000	2001
Argentina					17		
Brazil		7					
Colombia				9			
Poland					1		1
United States	24	1	1	1			
Total	24	8	1	10	18	0	1

Source: WTO secretariat, Textiles Division, June 2002.

¹³⁸ See Carson (1998). Some Japanese trigger levels for the volume-based Special Safeguard are very low and the price-based Special Safeguard was used by the United States for very small quantities (less than 10 Kgs for certain types of cheese).

¹³⁹ See (G/TMB/R/20).

that the rules leave Members a certain margin of manoeuvre with regard to the determination of the existence of dumping. So, if the presence of dumping can be shown, the conditions regarding the injury are less stringent than in the safeguard case.¹⁴⁰ Based on the requirement concerning the level of injury, it might be tempting to conclude that the prerequisites and the procedural requirements are much more stringent in the safeguards case. This difference however should not be overstated as some requirements are more stringent in the anti-dumping case than in the safeguards case. For example, the Anti-Dumping Agreement limits the right to apply for measures to the industry as a whole or to a group of producers whose collective output constitutes a major proportion of the relevant industry's total output (Article 4), and requires the presentation of evidence by the domestic industry to begin the process (Article 5), while the Safeguards Agreement does not include such requirements. Also, the scope of the domestic industry is narrower in the anti-dumping case where the domestic industry is defined as including only the producers of the like product, while in the safeguards case producers of directly competitive products are also included.

From an adjustment perspective, the main observation here is that anti-dumping has become the favoured route of domestic firms that wish to benefit from protection when foreign competition becomes more threatening.¹⁴¹ Table VI.6 shows the evolution of the number of initiations of investigations over the period 1995-1999 as well as their distribution by reporting Member. It is likely that the anti-dumping procedure is sometimes used by firms seeking temporary relief for adjustment purposes. In other words, this would mean that provisions that are not designed specifically to facilitate adjustment are used instead of those designed for this purpose. This may be a problem if, as could be expected, disciplines imposed on anti-dumping measures are different from those imposed on safeguards and in particular if they are less adapted. For instance, the drafters of the Safeguards Agreement made the extension in time of safeguard measures conditional upon showing that adjustment is indeed taking place while anti-dumping duties can be maintained without firms having to show that they are adjusting. As a matter of fact, anti-dumping duties can be maintained as long as it can be shown that the expiry of the duty would be likely to lead to the continuation or recurrence of dumping and injury.

Under Article VI of GATT 1994 and the Subsidies and Countervailing Measures (SCM) Agreement, Members have the possibility to react to an injury or a threat of injury caused by subsidized imports to the domestic industry. If a Member determines the existence and the amount of the subsidy and proves that through the effects of the subsidy, the subsidized imports are causing injury, it may impose a countervailing duty that offsets the effect of the subsidy and removes the injury to the domestic industry.

Domestic firms, if they feel injured or threatened to be injured by imports can apply for the initiation of an anti-dumping, or a countervailing duty investigation, or they can apply for the initiation of a safeguards investigation. The decision to go one or the other route in principle depends on whether they estimate that the imports at stake are dumped, or subsidized, or simply increasing. In practice, domestic producers sometimes apply for both countervailing duties and anti-dumping measures.

The prerequisites and most of the elements of analysis and procedure are the same for countervailing duties as for anti-dumping measures. The provisions concerning the duration of countervailing duties are also the same as those that apply to anti-dumping.

There is an important difference however in the frequency with which the two instruments have been used. As the figures in Table VI.7 show, the countervailing duty procedure has been much less used than the anti-dumping procedure. Therefore the problems that could possibly arise because one instrument is used instead of another are much less important in the countervailing duty case than in the anti-dumping case.

4. Balance-of-payment provisions

WTO rules also include provisions—GATT Articles XII and XVIII.B—that allow countries to safeguard their balance-of-payments in the face of a deterioration of their external financial position. Article XII allows additional (new) import restrictions to the extent necessary either to forestall an imminent threat of, or to stop, a serious decline in reserves or to rebuild reserves that are very low. Article XVIII.B allows developing countries to use import restrictions for the same purpose but under less stringent conditions. In particular, Article XVIII.B does not require the threat to be imminent nor the reserves to be very low but only inadequate. Both Articles provide that in these circumstances the general level of imports may be controlled through restrictions on either the quantity or value of imports.

The Understanding on the Balance-of-Payments Provisions of the GATT 1994 strengthened and clarified the balance-of-payments provisions. The objective was to avoid that restrictive measures be kept in place indefinitely. The Understanding for instance mandates the submission of a timetable for the phasing-out of import restrictions, subject to improvement in the balance-of-payments position. It also stipulates that a developing country, except for the least developed, may not consult under “simplified” procedures, as opposed to “full” (regular) consultations more than twice in succession.¹⁴² The Understanding strongly encourages the use of price-based instruments instead of quantitative restrictions and it requires countries applying quantitative restrictions to justify why they are not using price-based measures. The Understanding also confirms that restrictive import measures

¹⁴⁰ As far as the requirement of causality between imports and injury is concerned, it is unclear whether it is more stringent in the safeguards or the anti-dumping case.

¹⁴¹ The literature suggests that the institutional bias in the national procedures toward imposing anti-dumping tariffs has played a role. See for instance Markusen et al. (1995).

¹⁴² Simplified procedures introduced in the 1970s to relieve the burden on developing countries, in fact reduced the surveillance process by the Committee on Balance-of-Payments Restrictions to a routine; the IMF does not make a statement if there is a call for discussion or additional information, the next consultation needs to be “full” or regular procedures.

Table VI.6: Initiations of anti-dumping investigations by reporting Member, 1995-2001

Reporting country	1995	1996	1997	1998	1999	2000	2001	Total 1995-2001
United States	14	22	15	36	47	47	74	255
India	6	21	13	27	65	41	75	248
European Union	33	25	41	22	65	32	28	246
Argentina	27	22	15	8	24	45	26	167
South Africa	16	33	23	41	16	21	6	156
Australia	5	17	42	13	24	15	23	139
Canada	11	5	14	8	18	21	25	102
Brazil	5	18	11	18	16	11	16	95
Mexico	4	4	6	12	11	7	5	49
Korea, Rep. of	4	13	15	3	6	2	4	47
Indonesia	0	11	5	8	10	3	4	41
New Zealand	10	4	5	1	4	10	1	35
Turkey	0	0	4	1	8	7	14	34
Egypt			7	8	5	1	6	31
Venezuela	3	2	6	10	7	1	1	30
Israel	5	6	3	7	0	1	5	27
Peru	2	7	2	3	8	1	0	23
Colombia	4	1	1	6	2	3	6	23
Malaysia	3	2	8	1	2	0	1	17
Philippines		1	2	3	6	2	0	15
Chile	4	3	0	2	0	5	0	14
Trinidad and Tobago	0	1	0	4	3	1	0	9
Poland	0	0	1	0	7	0	0	8
Costa Rica	0	4	1	1	0	0	0	6
Chinese Taipei	0	0	0	0	0	3	3	6
Thailand	0	1	3	0	0	0	1	5
Uruguay	0	0	0	0	0	1	3	4
Czech Republic	0	0	0	2	1	0	0	3
Japan	0	0	0	0	0	0	2	2
Nicaragua	0	0	0	2	0	0	0	2
Panama	0	0	0	2	0	0	0	2
Ecuador	0	0	0	1	0	0	0	1
Guatemala	0	1	0	0	0	0	0	1
Slovenia	0	0	0	0	1	0	0	1
Jamaica	0	0	0	0	0	0	1	1
Total	156	224	243	250	356	281	330	1,845
<i>Memorandum item</i>								
Initiations of safeguards investigations	2	5	3	10	15	26	12	73

Source: WTO Secretariat, Rules Division Antidumping Measures Database, July 2002.

taken for balance-of-payments purposes may only be applied to control the general level of imports and thus that sector-specific protection should be avoided.

For the purposes of this study, however, the most important point is that the balance-of-payments provisions are designed to assist countries with balance-of-payments problems, and not countries facing structural adjustment problems in particular industries or sectors. Among other things, when the Balance-of-

Payments Committee assesses the situation of the country maintaining the measure, it does not take into account resource reallocation or restructuring problems. Also, the fact that restrictions should be imposed across-the-board on essentially *all* imports makes balance-of-payments restrictions inappropriate to deal with sectoral adjustment problems.¹⁴³

A question could arise as to whether a large scale trade liberalization could induce a balance-of-payments problem, which could

¹⁴³ This is confirmed by a dispute settlement panel that examined measures taken by India under Article XVIII.B. This Panel noted that the problem of structural adjustment to import competition is not a justification for balance-of-payment measures, and that for these situations, other provisions are available (WT/DS90/R, 6 April 1999).

Table VI.7: Initiations of countervailing duty investigations by reporting Members 1995-2001

	1995	1996	1997	1998	1999	2000	2001	Total
Argentina	1	1	1					3
Australia			1		1			2
Brazil							1	1
Canada	3				3	4	1	11
Chile					4			4
Egypt				4				4
European Community		1	4	8	19		6	38
Israel	2							2
Mexico			1					1
New Zealand	1	4	1					6
Peru			1			1		2
South Africa			1	1	2	5	1	10
United States	3	1	6	12	11	7	18	58
Venezuela					1			1
Total	10	7	16	25	41	17	27	143
<i>Memorandum item</i>								
Total number of anti-dumping initiations	156	224	243	250	356	281	330	1,845

Source: WTO secretariat, Rules Division, Countervailing Duties Database, July 2002.

then be considered as an adjustment problem resulting from trade reform. While this study does not address the macroeconomics of trade reform in detail, two points may be noted. First, liberalization in a multilateral context is reciprocal—trading partners will be reducing barriers to your exports at the same time as you are reducing your import barriers. Provided your export-oriented industries are able to respond to the new opportunities abroad, it is not unreasonable to expect imports and exports to increase at roughly the same pace. Second, under a flexible exchange rate regime, any tendency for imports to expand faster than exports will induce a depreciation, while under a fixed exchange rate regime, the government might consider combining liberalization with a devaluation *if* there is reason to worry about the responsiveness of domestic export-oriented industries.

Balance of payment provisions have progressively lost their importance.¹⁴⁴ The removal of exchange controls and other restrictions to capital mobility contributed to the decline in the use of trade policy to influence macroeconomic variables. The new approach to balance-of-payments problems has also played a role.¹⁴⁵ These changes have been reflected in the strengthening of balance-of-payments provisions in the 1994 Understanding. For all these reasons, recourse to Article XVIII.B has decreased as shown in Table VI.8. Only four developing countries were using

Article XVIII.B by 1998 compared to 17 in the mid-1980s. At this time, the two Members still using XVIII:B are in the process of dismantling their remaining restrictions. Table VI.8 also shows that since 1995 only very few countries, all transition economies, have taken recourse to Article XII.¹⁴⁶ In contrast to developing countries, which used quantitative restrictions for extensive periods of time, transition countries have been applying temporary import surcharges; typically for a period of one to two years.

C. WTO provisions on subsidies

As discussed earlier in the study, in the presence of market failures governments may feel justified in using subsidies to facilitate adjustment.¹⁴⁷ Their ability to do so may or may not be limited by WTO provisions relating to subsidies which contain new disciplines aimed at “levelling the playing field”, by recognizing the right of Members to use subsidies as a policy instrument, while at the same time restricting the use of subsidies that unduly distort trade or prejudice foreign producers. Among the subsidies that governments might consider using to facilitate adjustment, some may be covered by the Agreement on Subsidies and Countervailing Measures (hereafter the SCM Agreement), while others—such as unemployment benefits or training grants—may fall outside the Agreement.

¹⁴⁴ See McCusker (2000).

¹⁴⁵ In the new approach to balance of payments problems, an excessive outflow of capital or an unsustainably low level of foreign exchange reserves are considered as a macroeconomic problem. Increasingly, the idea that balance-of-payments deficits arise as a result of a disequilibrium between aggregate savings and investments and that they cannot be resolved with trade restrictions has become dominant. Today, the solution to balance-of-payments problems is considered to be a combination of exchange rate adjustment and policy reform.

¹⁴⁶ Under GATT Articles XII and XVIII.B, Members whose balance-of-payments difficulties have led them to restrict imports are required to consult regularly in the Committee on Balance-of-payments Restrictions, during the period when the restrictions are in place. Consultations are held every two years for developing countries, every year for countries consulting under Article XII.

¹⁴⁷ Boxes IV.1 and IV.2 above discuss adjustment assistance programmes in different countries. Notifications to the SCM Committee provide additional examples of adjustment targeted subsidies such as the subsidies granted to the mining industry by the Czech government [G/SCM/N/48/CZE], the Australian Shipbuilding Bounty [G/SCM/N/48/AUS], or the Japanese Support to structural adjustment of the coal mining industry [G/SCM/N/48/JPN].

Table VI.8: Recourse to BOP provisions

	Article XVIII.B	Article XII (from 1990)	BOP provision not specified
Argentina	1972-1978 1986-1991		
Bangladesh	1974		
Brazil	1962-1971 1976-1991 1995		
Bulgaria		1996-1998	
Chile	1961-1980		
Colombia	1981-1992		
Czech Republic		1990-1991 1997	
Egypt	1963-1995		
Ghana	1959-1989		
Hungary		1995-1997	
India	1960-1997		
Indonesia	1960-1979		
Israël			1961-1995
Korea	1969-1989		
Nigeria	1985-1998		
Pakistan	1960-...		
Philippines	1980-1995		
Peru	1968-1991		
Poland		1992-1996	
Romania		1998-2000	
Slovak Republic		1990-1991 1994-1996 1997-1998 1999-2000	
South Africa			1960-1977 1985-1995
Sri Lanka	1960-1998		
Tunisia	1967-1997		
Turkey	1960-1997		

NB: The dates may refer either to when the measures were notified or to the first consultation in the Committee.

The SCM Agreement distinguishes three categories of developing country Members: least-developed Members, Members listed in Annex VII(b) until their GNP per capita has reached 1000\$ per year, and other developing countries. LDCs and Annex VII(b) countries are exempted from the prohibition on export subsidies. Other developing countries have an eight year period to phase out their export subsidies, while countries in transition were given a seven-year period to phase out prohibited subsidies.

Agricultural subsidies are covered by special rules under the Agreement on Agriculture. Export subsidies which are consistent with the reduction commitments in the Agriculture Agreement

are not prohibited by the SCM Agreement, although they remain countervailable. Domestic supports consistent with the reduction commitments in the Agriculture Agreement are not actionable multilaterally, although they also may be subject to countervailing duties. Finally, domestic supports within the "green box" of the Agriculture Agreement are not actionable multilaterally nor are they subject to countervailing measures.

For the most part the rules in the SCM Agreement are very complex, making it difficult to generalize about which disciplines apply to broadly defined categories of subsidies. Article 2 states that the disciplines set out in the agreement only apply to *specific* subsidies, that is, to subsidies available to an enterprise, industry, group of enterprises, or group of industries. The presumption is that a subsidy that is widely available within an economy causes relatively little distortion in the allocation of resources and is therefore permissible.¹⁴⁸

Parts II to IV of the Agreement originally defined three categories of subsidies—non-actionable subsidies, actionable subsidies and prohibited subsidies—and set out the rules that apply to each of them. Since the provisions concerning "non-actionable subsidies" applied only for a period of five years, beginning with the entry into force of the WTO Agreement in 1995, and since their application has not been extended, specific subsidies covered by the Agreement are now either actionable or prohibited.

Thus all subsidies that are targeted at particular companies, particular sectors or particular regions are either prohibited or actionable (however, the fact that they are actionable does not necessarily mean that they will or can be successfully challenged or countervailed by other Members). In contrast, adjustment-related government subsidies or benefits that are not specific are neither prohibited nor actionable.

Actionable subsidies

Since 1 January 2000, all specific subsidies covered by the SCM Agreement that are not prohibited are actionable. Subsidies in this category are subject to challenge, either through multilateral dispute settlement or through the imposition of countervailing duties, provided the complaining country can show that the subsidy has an adverse effect on its interests. Otherwise the subsidy is permitted. The Agreement distinguishes between three types of adverse effects that are actionable. One is material injury to a domestic industry caused by subsidized imports in the territory of the complaining Member. This is also the sole basis for countervailing action. Second, there can be a serious prejudice to exporters from the complaining country in the market of the subsidizing country or in a third country. The third arises when a subsidy undercuts improvements in market access expected to result from a reduction in a bound tariff (this would correspond to the nullification or impairment of benefits accruing under GATT 1994).

¹⁴⁸ There are four types of "specificity" in the Agreement: (a) enterprise specificity, (b) industry specificity, (c) regional specificity, (d) prohibited subsidies. It is interesting to note that according to Article 2.1(b), "where the granting authority, or the legislation pursuant to which the granting authority operates, establishes objective criteria or conditions governing the eligibility for, and the amount of, a subsidy, specificity shall not exist, provided that the eligibility is automatic and that such criteria and conditions are strictly adhered to." The idea here is that subsidies to small and medium firms for instance should not be considered as "specific". All specific subsidies must be notified to the SCM Committee.

Prohibited subsidies

This category includes two types of subsidies: (1) export subsidies, and (2) local content subsidies. Export subsidies are those that are contingent, in law or in fact, whether wholly or as one of several conditions on export performance. A detailed illustrative list of export subsidies is annexed to the Agreement. Local content subsidies are those which are contingent, whether solely or as one of several other conditions, upon the use of domestic over imported goods. The two types of subsidies are prohibited because WTO Members have accepted that they are specifically designed to distort international trade.

These prohibitions are not new. Developed countries had already accepted the prohibition on export subsidies in the 1960s under GATT Article XVI. The main change introduced by the SCM Agreement relates to the extension of the obligations to developing country Members in accordance with specified transition rules, as well as the creation of a rapid (three-month) dispute settlement mechanism for complaints regarding prohibited subsidies. Members were allowed three years from the date on which the SCM Agreement entered into force to phase out prohibited subsidies, while developing countries and countries in transition benefit from additional transition periods.

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VIII. Technical Annex

A. Structural change index

A commonly used method of measuring structural change in output (and employment) is the rate of coefficient of (compositional) structural change, often referred to as a SCI.¹⁴⁹ The SCI for output may be defined as half the sum of the absolute value of the differences in value-added shares over time. The calculation is given by the formula:

$$\bullet \text{ SCI} = \frac{1}{2} \sum |x_{i,t} - x_{i,t-1}|$$

where $x_{i,t}$ and $x_{i,t-1}$ represent each industry's share of total value-added at time (t) and (t-1), respectively. The use of absolute values ensures that positive and negative changes in industry shares do not cancel each other out when the values are summed across industries. The SCI is bounded between zero and 100, with zero representing no structural change while 100 indicates a complete reversal of structure.

The resulting indexes are sensitive to a number of factors including:¹⁵⁰ the level of industry aggregation; time periods chosen for comparison; and price movements. With respect to the time periods, it is the case that year-to-year comparisons tend to exhibit considerable variability reflecting the influence of temporary and cyclical fluctuations in activity which can obscure the effects of longer term changes in output and employment shares between industries. We therefore used two types of SCIs in chapter II. "Annual SCIs" have been computed on the basis of year-to-year changes in industry shares. "Average SCIs" instead were computed on the basis of changes between the average industry shares of the last three years of the relevant period and the average shares of the first three years of the same period. The relevant period is indicated in each graph.

B. The distributional effects of adjustment costs

Assume a two sector set-up close to the one in Leamer (1980), where each sector uses one production factor, which is labour (L). Production takes place according to concave production functions $f(L_{A,t})$ in sector A and $g(L_{B,t})$ in sector B (where the subscript t refers to the period in which production takes place.¹⁵¹ The country imports good A and exports B. Assume that the world price for each of the goods is equal to 1 and that in period 0 an import tariff τ exists. Assume besides that the economy is in equilibrium at this moment, which implies that the labour allocation between sectors is such that wages are equal in both sectors. As wages will be equal to marginal products, this implies:¹⁵²

$$\bullet (1 + \tau)f'(L_A) = g'(L - L_A)$$

If moving from one sector to the other is cost less workers will move from sector A to B when trade is liberalised until wages are again equal in both sectors. This implies that the amount of people switching sectors in this case, T_1 , satisfies:

$$\bullet f'(L_A - T_1) = g'(L - L_A + T_1) \quad (1)$$

Given the concavity of the production functions, it is clear that the marginal product (and thus wage) has gone down in sector B. Given the equality of wages in both sectors, wages in sector A must also have gone down.

Now assume that switching sectors actually involves a fixed adjustment cost of F . Again, it will be the case that when tariffs are abolished, wages in sector A will suddenly be lower than in sector B, for the given allocation of workers. Workers will then start switching sectors, if they actually gain from doing so, i.e. if the following condition is satisfied:

$$\bullet f'(L_A) < g'(L - L_A) - F$$

Once workers start switching sectors, the number of workers will decrease in sector A and increase in sector B. The transfer of workers will thus reduce the wage difference between the two sectors and workers will only move into sector B until the wage in sector A is equal to the wage in sector B minus the adjustment costs. The amount of people moving sectors, T_2 , will therefore satisfy:

$$\bullet f'(L_A - T_2) = g'(L - L_A + T_2) - F \quad (2)$$

When comparing equations 1) and 2) it becomes clear that $T_2 < T_1$. In other words, less workers move, i.e. less adjustment takes place, when adjustment is costly. This must be the case in order for wages in sector B to be higher than in sector A. In sector B wages will be higher than in the case of no adjustment costs, as the fact that less workers move to sector B implies less downward pressure on wages there. The opposite is the case in sector A. More workers remain in this sector, where foreign competition pushes prices down and thus wages. Workers originally in sector A are worse off with adjustment costs, than without, independent of whether they decide to leave the sector or not.

C. When adjustment takes time

Assume we are in the same economy as the one in Section B, where wage equality in the economies' two sectors in period 0 implies that:

$$\bullet (1 + \tau)f'(L_A) = g'(L - L_A)$$

We have seen that once the tariff is lifted, workers would leave sector A in order to take advantage of higher wages in

¹⁴⁹ Productivity Commission (1998).

¹⁵⁰ See Productivity Commission (1998) for more details.

¹⁵¹ This set-up corresponds to a sector-specific factor model. In our set-up companies will make profits that correspond to the income of the sector-specific factor in the specific-factor model.

¹⁵² Time subscripts have been omitted for convenience.

sector B. If the economy would only exist for one additional period, like in Section A, and adjustment costs F would be required in order for adjustment to take place, the new equilibrium would be given by:¹⁵³

- $f(L_A - T_2) = g'(L - L_A + T_2) - F$

Now let's assume instead that the worker lives for another two periods. This would imply that if he moves today, he would be able to take advantage from the higher wage during two periods. When the worker thinks about switching sectors, he will therefore also take his future wages into account in his decision. However, he values future income less than current income. Consequently he will discount tomorrow's wage by a discount factor, which we shall call ρ .

Workers will only start switching sectors, if they can gain from doing so, i.e. if the following equation is satisfied:¹⁵⁴

- $f(L_A) + \rho f(L_A) < g'(L - L_A) - F + \rho g'(L - L_A)$

or

- $(1 + \rho)f(L_A) < (1 + \rho)g'(L - L_A) - F$ (3)

In equilibrium workers wages will be equal to their marginal product and therefore the number of people switching sectors will be given by:

- $(1 + \rho)f(L_A - T_3) = (1 + \rho)g'(L - L_A + T_3) - F$ (4)

When comparing equation 4) with 2), we see that T_3 will be bigger than T_2 . In other words, for a given level of fix costs, more adjustment will take place the longer the individuals' time horizon. This is the case, because the gain from adjusting consists in the (discounted) sum of wage gains enjoyed over the complete time horizon. In order to cover adjustment costs, a smaller wage gain is therefore sufficient in each period. More people will therefore leave the import competing sector before the point is reached, where nobody would make any gains from moving. Taking this into account, it is clear that the larger the time horizon that is relevant for the adjustment decision, the higher the level of adjustment that takes place and the closer adjustment gets to the level of adjustment that would be chosen if adjustment was cost-less.

Going back to the two period example, it is important to point out that it may happen that the adjustment costs workers pay in period 1 are higher than their wage in that same period. They would thus have a negative revenue in that period, which implies:

- $g'(L - L_A + T_3) - F < 0$ (5)

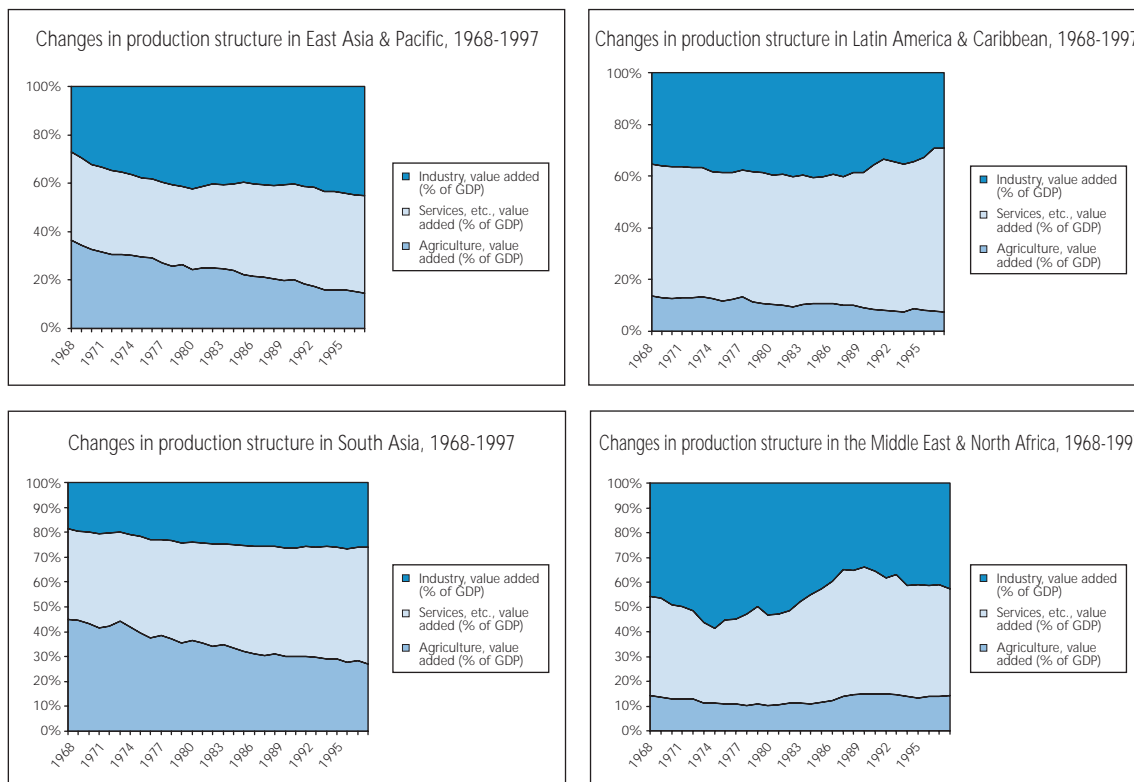
If 5) and 3) both apply adjustment would take place anyway. This is the case because the high wage in period 2 compensates workers for the loss in the first period and this to such an extent that moving is even more interesting than remaining in the import competing, where revenues would be positive in each period.

¹⁵³ See Section B.

¹⁵⁴ Workers will also consider whether they should adjust in the first period or rather in the second. This decision is not depicted here, but it can be shown that with a fix cost F all adjustment will take place in the first period.

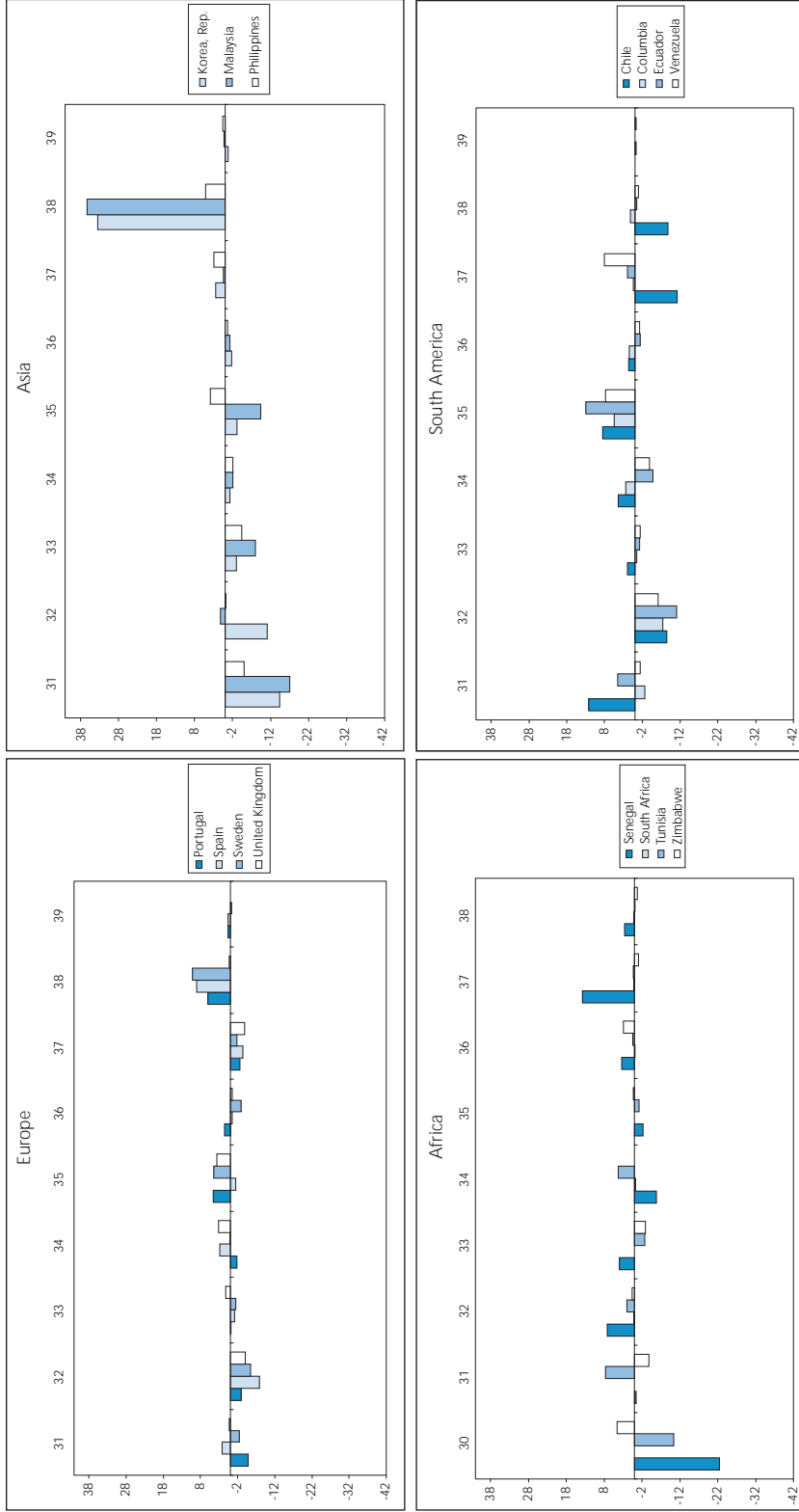
IX. Annex Section II

Graph II.1. Appendix: Share in GDP of agriculture, industry and services, 1968-1997
(current prices)



Sources : World Bank Indicators, WDI 2000

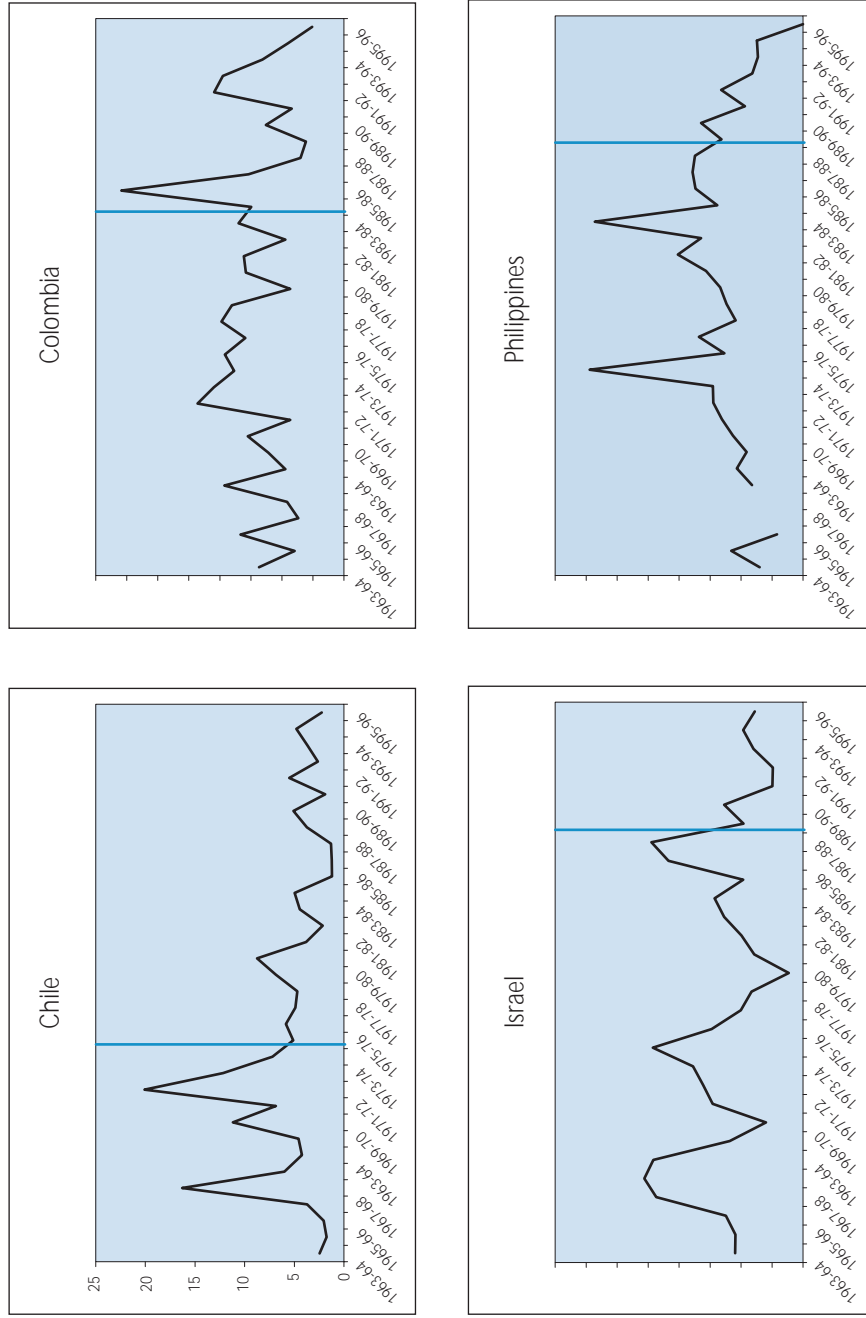
Graph II.2. Appendix: Evolution of industry branches within manufacturing, 1968-1997



- 31 Manufacture of food, beverages and tobacco
- 32 Textile, wearing apparel and leather industries
- 33 Manufacture of wood and wood products, including furniture
- 34 Manufacture of paper and paper products, printing and publishing
- 35 Manufacture of chemicals and chemical petroleum, coal, rubber and plastic products
- 36 Manufacture of non-metallic mineral products except products of petroleum and coal
- 37 Basic metal industries
- 38 Manufacture of fabricated metal products, machinery and equipment
- 39 Other manufacturing industries

Sources : Industrial Statistics database, 3-digit level of ISIC Code 1963-1998,
United Nations Industrial Development Organization 2000.

Graph II.3. Appendix: Annual changes in the composition of manufacturing before and after trade liberalisation



Note : Annual SCIs for manufacturing disaggregated into nine industry branches (see Graph V.2.Appendix).
Data is missing for the Philippines (1967); dotted lines indicate year of trade liberalisation.

Sources : Industrial Statistics Database 3-Digit level ISIC 2000 (UNIDO).
Sachs and Warner (1995) for year of trade liberalisation. (also: Harvard University web-site).

