UNCTAD/TDR/2002

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT
Geneva

TRADE AND DEVELOPMENT REPORT, 2002

Chapter IV
COMPETITION AND THE FALLACY OF COMPOSITION

UNITED NATIONS
New York and Geneva, 2002

Chapter IV

COMPETITION AND THE FALLACY OF COMPOSITION

A. The issues at stake

The standard advice to developing countries experiencing difficulties in promoting primary sector exports is to move to labour-intensive manufacturing. Such a strategy is advocated on a number of grounds. First, since labour is in more plentiful supply in most developing countries than natural resources, there is more scope for expanding production based on labour than on natural resources. This proposition, which draws on the traditional theory of comparative advantage, is probably valid for most developing countries outside Africa; in that region comparative advantage lies more in natural resources (*TDR 1998*, Part Two, chap. IV). Second, it is easier to upgrade to technology- and capital-intensive activities and to supply-dynamic products from low-skill, labour-intensive manufacturing than from primary production. Again, this is generally correct. However, the evidence surveyed in chapter III shows that many of the developing countries involved in the labour-intensive segments of international production networks have not been able to make much progress in graduating to more sophisticated manufactures. The third reason posited in favour of labour-intensive manufacturing activities is that demand for these products is more stable than the demand for primary products. Again, the evidence reviewed in the previous chapter, on the volatility of export values of products around their longer-term trends and on the behaviour of export and import prices of the United States, confirms the validity of this proposition. However, it is also true that in recent years a number of manufactures, notably in computers and electronics, have shown extreme volatility, causing serious disruptions in the export earnings and external payments of a number of developing economies in East Asia.

Perhaps one of the most important reasons for moving into labour-intensive manufactures is that these products are more market-dynamic than primary commodities: they offer better prospects for expansion of volume of exports without incurring a serious risk of sharply falling prices and/or earnings because of low price elasticities of demand. Again, the evidence examined in the previous chapter generally confirms this proposition, but it is also true that world trade in a number of primary commodities has been growing faster than

that in many manufactures, mainly of the labour-intensive kind. The issue remains, however, of the threshold beyond which an expansion of exports will lead to a sharp drop in prices. This is the well-known problem of fallacy of composition, or the adding-up problem: that is, on its own a small developing country can substantially expand its exports without flooding the market and seriously reducing the prices of the products concerned, but this may not be true for developing countries as a whole, or even for large individual countries such as China and India. A rapid increase in exports of labour-intensive products involves a potential risk that the terms of trade will decline to such an extent that the benefits of any increased volume of exports may be more than offset by losses due to lower export prices, giving rise to "immiserizing growth" (Bhagwati, 1958).

A further complication is that the exporting countries may not be better off, even when rising export volumes offset falling net barter terms of trade (NBTT) and their export earnings or the purchasing power of their exports (i.e. income terms of trade) grow. Indeed, it is doubtful whether the concept of income terms of trade can meaningfully describe the benefits of such trade unless it is assumed that an additional volume of exports can be produced without additional resource costs. This might be the case when there is no alternative use for the labour employed in manufacturing for export and when there is no additional resource cost necessitating payment in foreign exchange. However, as seen in the previous chapter, the direct and indirect import contents of manufactured exports of developing countries are generally high; moreover, they have been rising in recent years, particularly in countries that have been pursuing rapid trade liberalization and participating in the labour-intensive segments of international production networks. Under these conditions, falling export prices and NBTT can entail resource losses, even though increasing volumes more than compensate for the fall in prices.

The evidence above shows that, with some notable exceptions, exports of developing countries have been concentrated in resource-based and labour-intensive products. This is true not only for many traditional manufactures, but also for what appear to be skill- and technology-intensive exports. Furthermore, it has also been noted that a large number of countries have not yet made significant inroads into markets for labour-intensive manufactures or participated to any great extent in the labour-intensive segments of international production networks. Even countries that have been highly active and successful on both fronts, such as China, still have large amounts of unemployed or underemployed low-skilled labour, which can potentially be used for increasing activity in traditional manufacturing sectors or international production networks. Thus fallacy of composition in labour-intensive manufactures may become a problem if there is a simultaneous export drive by developing countries in these manufactures, which would result in falling export prices and/or earnings. It can also become a problem, reflected in falling wages, when there is increased competition among these countries as locations for foreign direct investment (FDI) in simple processes of otherwise high-tech activities organized in international production networks. Government policies can exacerbate the problem by offering transnational corporations (TNCs) tax concessions and other incentives. The question of the probability of markets for labour-intensive manufactured exports from developing countries becoming oversupplied, and especially the policy responses this would call for, are thus important elements in the design of export-oriented development strategies. This chapter addresses these issues.

Falling export prices and net barter terms of trade can entail resource losses even if increasing volumes more than compensate for the fall in prices.

The next section reviews the empirical evidence concerning the behaviour of manufacturing terms of trade of developing countries vis-à-vis industrial countries over the past two decades. The evidence does not show an unambiguous, strongly downward trend threatening to reach the point of immiserizing growth. However, there are signs that prices of manufactured exports of developing countries have been weakening vis-à-vis those of industrial countries, especially for the less

skill-intensive manufactured exports. Section C provides a comparative analysis of the degree of competition and concentration in markets for products exported by industrialized and developing countries and an examination of the profile of the global labour force participating in international trade, with a view to determining the extent of potential competition in labour-intensive products. It shows that competition is greater in markets for manufactures exported by developing countries, and that this could increase significantly; such a trend could lead to problems associated with fallacy of composition if the recent growth in the share of low-skilled workers involved in international trade continues unabated.

Prices of manufactured exports of developing countries have been weakening vis-à-vis those of industrial countries, especially for the less skill-intensive manufactured exports.

Whether these trends actually do lead to fallacy of composition depends, however, on a number of other factors, as was indicated by the results of simulations undertaken in the context of a North-South trade model in *TDR 1996* (Part Two, chap. III). Such factors include, *inter alia*, market access conditions for these products, the pace at which the more advanced developing countries diversify their own production structures away from low-skilled exports, and how quickly developed country producers move out of low-skill products (see also Havrylyshyn, 1990, and Martin, 1993). The analysis in section D shows that trade barriers in industrial countries discriminate against developing country manufactures, and that their removal could greatly increase the demand for these products. However, the problems faced in industrialized countries' labour markets, including high levels of unemployment among low-skilled workers and/or widening wage differentials and income inequality, tend to lead to pressures for increased protectionism against labour-intensive exports of developing countries which, if heeded, would increase the risk of fallacy of composition.[1]

Competition is greater in markets for manufactures exported by developing countries; this could lead to problems associated with fallacy of composition.

Faster growth in industrialized countries can help not only by expanding markets for the exports of developing countries, but also by creating job opportunities for their own labour. This would, of course, call for the adoption by the major industrialized countries of expansionary macroeconomic policies aimed at attaining the kind of rapid and sustained growth that could help alleviate their labour market problems. Rapid growth in these countries would need to be accompanied by structural policies designed to train labour to enable it to shift to more skilled activities.

A gradual, progressive move by developing countries at different levels of development across the spectrum of manufacturing industries – in the way described in the East Asian context as "the flying geese" process – can also help avert the problems associated with fallacy of composition and protectionist reactions by expanding South-South trade in manufactures and allowing newcomers some space in the markets of industrial countries (*TDR 1996*, Part Two, chap. I). In fact, the exit of some of the successful newly industrializing economies (NIEs) in Asia from low-skill, labour-intensive manufactures has already helped to create room for the new generation of NIEs in the region, as well as China. However, it is much more difficult to coordinate such a progressive division of labour at the global level than at the regional level; it requires a rapid upgrading by a significant number of middle-level countries into more sophisticated manufactures. Thus appropriate action is needed not only at the national level, but also in the multilateral forums to allow greater policy space for technological upgrading and progress.

Again, an appropriate balance in developing countries between reliance on domestic markets and exports can help. The difficulty here is that, as discussed at greater length in *TDR 1999*, many

developing countries which have long neglected exports have felt the need for a rapid shift towards outward orientation to correct for past policy mistakes; this need is given greater urgency due to rapid import liberalization, widened current account imbalances, unstable private capital flows and diminished official aid. Furthermore, there is also the concern that greater emphasis on domestic markets could be seen as opening the door to protectionism and as implying opposition to global integration.

Rhetoric aside, history teaches that the economic development of the United States, Japan and almost all of the Western European countries was based on their home markets. Apart from some small economies (such as Ireland), none of the advanced countries has a manufacturing sector that is as highly export-oriented as it is in fairly large developing countries both in Asia and Latin America. Moreover, as seen in the previous chapter, in a number of advanced economies (e.g. France, Germany, Japan and the United States) the ratio of manufactured exports to manufacturing value added has, for some years, been fairly stable at a relatively low level. This suggests that the outward orientation of certain developing countries may decline as they grow richer and their home markets expand, and it implies that their domestic sales will grow even faster than their exports of manufactures. This seems inevitable in the case of a large country like China, but it may also be true for countries like Mexico and Malaysia. If so, the large share of exports in total output of many developing economies represents a stage of development that economies would go through before their home markets mature. Managing that stage to avoid a fallacy of composition is a challenge to development policy and development cooperation.

B. The terms of trade of developing country exports: a review of the evidence

Following the work of Prebisch and Singer, it has frequently been argued that the terms of trade between non-fuel primary commodities and manufactures are on a downward trend. Several studies on the fallacy of composition thesis for exports of primary commodities have found support for this argument with respect to a number of agricultural commodities, in particular bananas, cocoa, coffee, cotton, tea and tobacco, but also some other commodities such as copper and petroleum (Bleaney, 1993; Akiyama and Larson, 1994; World Bank, 1996: 55; and *TDR 1993*: 98–102). Export earnings from these commodities are of vital importance to a wide range of developing countries, and oversupply has involved substantial revenue losses for them in recent decades. Accordingly, they have been advised to diversify away from primary products into manufactures, for which income and price elasticities of demand are considered to be comparatively high.

The downward trend in the terms of trade for primary commodities remains a crucial concern for a large number of developing countries, as it affects their capacity to import essential goods for their development.

The downward trend in the terms of trade for commodities certainly remains a crucial concern for a large number of developing countries, as it affects their capacity to import essential goods for their development. However, as noted above, many developing countries in Asia and Latin America have experienced rapid growth in manufactured exports; at the aggregate level, the value of these exports to developed countries has exceeded that of their primary commodity exports since the early 1990s. As a consequence, the debate on terms of trade has increasingly turned towards the relative movements in the prices (or unit values) of manufactures exported by developing countries vis-à-vis those exported by developed countries.

This shift in the debate from terms of trade between primary commodities and manufactures to those between manufactures and other manufactures has been accompanied by a shift in the analysis of the underlying factors. The Prebisch-Singer hypothesis focuses on the characteristics of the products traded (primary products versus manufactures); it emphasizes that income elasticity of demand for primary commodities is lower than for manufactures, and that there is an upward supply bias for commodities due to the existence of a large pool of unemployed or underemployed labour in developing countries. By contrast, the more recent debate relates primarily to the characteristics of the trading parties (developed versus developing countries), emphasizing their differences in terms of technological ca-

pacity, labour market institutions and the absence or presence of surplus labour. From this perspective, the types of manufactures exported by developing countries, compared to those exported by developed countries, are said to share some of the disadvantages which were originally associated in the Prebisch-Singer hypothesis concerning primary products in comparison with manufactures. This change in focus has important policy implications because, to the extent that developing countries face a downward trend in their terms of trade in manufactures, an outward-oriented industrialization strategy based on a shift from primary to manufactured exports may fail to solve their terms-of-trade problem.

An early study on terms of trade in manufactures found that, over the period 1970–1987, the price of manufactured exports from developing countries had fallen by an average of 1 per cent a year relative to the price of manufactured exports from developed countries (Sarkar and Singer, 1991). This finding has been challenged on the grounds that, through rapid expansion of their manufactured exports, developing countries have achieved significant gains in their purchasing power of exports; moreover, the apparent deterioration in their terms of trade in manufactures virtually disappears when non-ferrous metals are excluded from the definition of manufactures (Athukorala, 1993). According to this view, non-ferrous metals should be treated as primary commodities because their manufacturing value-added component is small and because variations in their price mainly reflect variations in the price of metalliferous ores. However, further studies have shown that relative prices of non-ferrous metals have behaved in a more or less similar way as other manufactured exports of developing countries for much of the period, following an unusually large fall in the early 1970s, when these metals accounted for a large share of developing country exports. There is evidence of a decline in developing countries' terms of trade in manufactures since 1975, regardless of whether non-ferrous metals are classified as primary commodities or manufactures (Rowthorn, 1997). This result is supported by a study comparing a price index of manufactured exports from developing countries with a price index for the combined exports of services and complex manufactures from developed countries (where non-ferrous metals are not included among manufactures). The study shows a large, though unsteady and irregular, deterioration in the manufacturing terms of trade of developing countries' since 1960, occurring mainly in the 1960s, but falling again between 1985 and 1990 (Minford, Riley and Nowell, 1997).

Further support for the hypothesis of a deterioration of developing countries' terms of trade in manufactures is provided by an analysis for the period 1979–1994 using the unit values of manufactured imports and exports between the EU and developing countries (Maizels, Palaskas, and Crowe, 1998).[2] This study also provides a first empirical test of the proposition that scientific and technological capacities have a major impact on the development of terms of trade (Singer, 1975). It does so by analysing the terms of trade in manufactures of the EU with different groups of countries at different stages of scientific and technological development, including selected developing country groups, Japan and the United States. The examination of the NBTT, measured in terms of the ratio between unit value indices of imports and exports of manufactures, suggests that both the United States and Japan – the world leaders in a wide range of technology-intensive manufactures – experienced a slightly favourable trend in their manufactures' terms of trade with the EU. A moderately negative trend was observed for East and South-East Asia (with their NBTT deteriorating at less than 1 per cent a year), but there was a strong negative trend for the least developed countries (LDCs) and the African, Caribbean and Pacific (ACP) group of countries, with a decline of 5 per cent a year. Latin American and Mediterranean countries were in-between, in accordance with the level of their scientific and technologi-

To the extent that developing countries face a downward trend in their terms of trade also in manufactures, an outward-oriented industrialization strategy based on a shift from primary to manufactured exports may fail to solve their terms-of-trade problem.

cal development and skill-content of their manufactured exports.[3] The analysis of the previous chapter suggests that these different trends do not reflect differential productivity growth rates, since the supply dynamism of manufactures exported by lesser developed countries is low compared to that of the more skill- and technology-intensive products.

Similar conclusions were reached by a study on the evolution of the Republic of Korea's terms of trade in manufactures with less and more advanced countries for the period 1976–1995 (Berge and Crowe, 1997). The results indicate no significant trend in the NBTT of the Republic of Korea regarding its trade in manufactures with advanced industrial countries, but a significant increase vis-à-vis other developing countries, and an even greater increase in the income terms of trade. This suggests that the exports of the Republic of Korea have increasingly shifted to higher value-added, technologically sophisticated, dynamic manufactures, compared to the basic manufactures exported by its less developed trading partners, and that technological upgrading can have a major influence on the movement of the terms of trade not only between developed and developing countries, but also among developing countries.

It is the countries with the lowest proportion of technology-intensive manufactures and the highest proportion of labour-intensive products in their manufactured exports that have faced declining terms of trade in manufactures.

An analysis of the medium-term trends over the period 1981–1996 in the terms of trade in manufactures of developing and developed countries with respect to the United States constitutes a further piece of evidence (Maizels, 2000). This analysis was based on one of the most reliable data sets on trade prices, namely the new price series compiled and published by the United States Bureau of Labor Statistics (BLS).[4] The study arrives at two main results. First, by examining the behaviour of the United States' NBTT with developing and other developed countries, it concludes that the trend in the terms of trade of developing countries vis-à-vis developed countries as a whole has significantly worsened since the early 1980s.[5] Second, changes in the trade balance of manufactures of both developed and developing countries with the United States have been driven by the rapid growth in their volume. The volume increase in developing country exports has more than offset the declines in their NBTT.

An UNCTAD study shows that China's net barter terms of trade in manufactures deteriorated by more than 10 per cent over the period 1993–2000 (Zheng, 2002) and that this deterioration was greater vis-à-vis developed countries than developing countries. Overall, it appears to have been less pronounced for traditional, labour-intensive manufactures than for products with medium and high technology intensity, such as computers and office equipment, as well as telecommunications equipment and semiconductors. These are the sectors in which China's participation in global production networks has grown the most rapidly over the past few years. But since China participates primarily in the labour-intensive segments of these networks, it is not surprising that the terms of trade in these products moved differently for China than for developed countries. The decline in its terms of trade for labour-intensive and resource-based manufactures was greatest with the United States and Japan, the world's most technologically advanced countries. It is also noteworthy that China's terms of trade in manufactures with high technology intensity deteriorated considerably vis-à-vis the countries of the Association of South-East Asian Nations (ASEAN), while they improved slightly with the United States. This finding reflects a triangular pattern of production sharing in computers and office equipment, as well as in telecommunications equipment and semiconductors; since China imports inputs from the ASEAN countries and re-exports them, with little domestic value added, to the United States, higher prices of inputs imported from ASEAN translate into higher prices in the processed products exported to the United States.

The empirical evidence thus strongly suggests that global competition for labour-intensive

manufacturing activities has risen over the past few years. This coincides with the shift in the mid-1980s of several highly populated, low-income economies towards more export-oriented strategies. The countries with the lowest proportion of technology-intensive manufactures and the greatest proportion of low-skill, labour-intensive products in their manufactured exports have faced declining terms of trade in manufactures. A few others appear to have succeeded in improving their terms of trade vis-à-vis lesser developed countries by upgrading their exports into higher skill- and technology-intensive products. Intensification of clustering at the low end of manufactured exports and increased competition for markets for them might strengthen these divergent trends.

C. Competition in world markets for labour-intensive manufactures

It is generally held that prices of manufactures are much less flexible than prices of primary commodities in world trade, in large part because markets for manufactures are much less competitive, and because of the greater ease with which supply of manufactures can respond to fluctuations in demand. Most markets for manufactures have high barriers to entry; many are oligopolistic, controlled by a small number of producers who often compete on the basis of quality, design, marketing, branding and product differentiation rather than prices. In such markets prices move more in line with supply conditions and costs than with fluctuations in the level of demand.

Firms tend to respond to variations in demand by adjusting their inventories and production rather than their prices; indeed, consumers may even face rationing in the form of queues or delays between orders and delivery. Firms often target a certain mark-up over costs, especially labour costs. In most major industrial countries, wages in firms are not flexible, which means that price declines cannot be easily passed on to labour in order to maintain profit margins; this is true even in countries considered as having flexible labour markets. This inflexibility is not only due to a number of labour market regulations, including minimum wage legislation, collective bargaining and restrictions on hiring and firing; it is often also embedded in established industrial practices and traditions designed to provide secure and predictable incomes for workers.

The absence of such conditions in the labour markets of most developing countries, at least for low-skilled labour, together with large amounts of surplus labour, often implies that wages there are much more flexible than in industrial countries. This increases the ability of firms to lower wages when there are price declines so that profit margins are not sacrificed; it thus allows them to compete on the basis of prices in markets for labour-intensive manufactures. In a sense, therefore, competition among firms located in developing countries in world markets for labour-intensive manufactures becomes competition among labour located in different countries. The combination of increased mobility of capital and mass unemployment and underemployment in the developing world weakens the bargaining position of labour even in countries that enjoy full employment. Furthermore, the East Asian experience noted in the previous chapter shows that mobility of low-skilled labour is greater among developing countries than between developing and industrial

Table 4.1

MANUFACTURES WITH THE LOWEST MARKET CONCENTRATION IN WORLD TRADE, 1997–1998

Rank	SITC code	Product group	Index of concentration 1997–1998	Rank by rate of decrease in concentration 1990–1998
1	*635*	Wood manufactures	441	24
2	*651*	Textile yarn	458	86
3	*941*	Live animals	474	125
4	*673*	Iron and steel bars, and rods	487	118
5	*693*	Wire products and fencing grills	504	110
6	*522*	Inorganic chemicals	507	116
7	*677*	Iron or steel wires	518	127
8	*691*	Metal structures and parts	537	100
9	*652*	Cotton fabrics	555	113
10	*771*	Electric power machinery	560	3
11	*846*	Knitted undergarments	561	9
12	*672*	Iron or steel ingots and forms	569	103
13	*843*	Women's textile garments	571	85
14	*692*	Metal containers	578	88
15	*671*	Pig and sponge iron	582	94
16	*842*	Men's textile garments	600	35
17	*845*	Knitted outergarments	613	92
18	*844*	Textile undergarments	623	30
19	*658*	Made-up textile articles	631	52
20	*679*	Iron and steel castings	635	23
Memo item:				
34	*764*	Telecommunications equipment and parts	672	6
64	*752*	Computers	793	5
75	*759*	Parts of computers and office machines	855	10
87	*776*	Transistors and semiconductors	942	1
		All manufactured products (unweighted average)	957	.

Source: UNCTAD secretariat calculations, based on UN/DESA, *Commodity Trade Statistics* database.

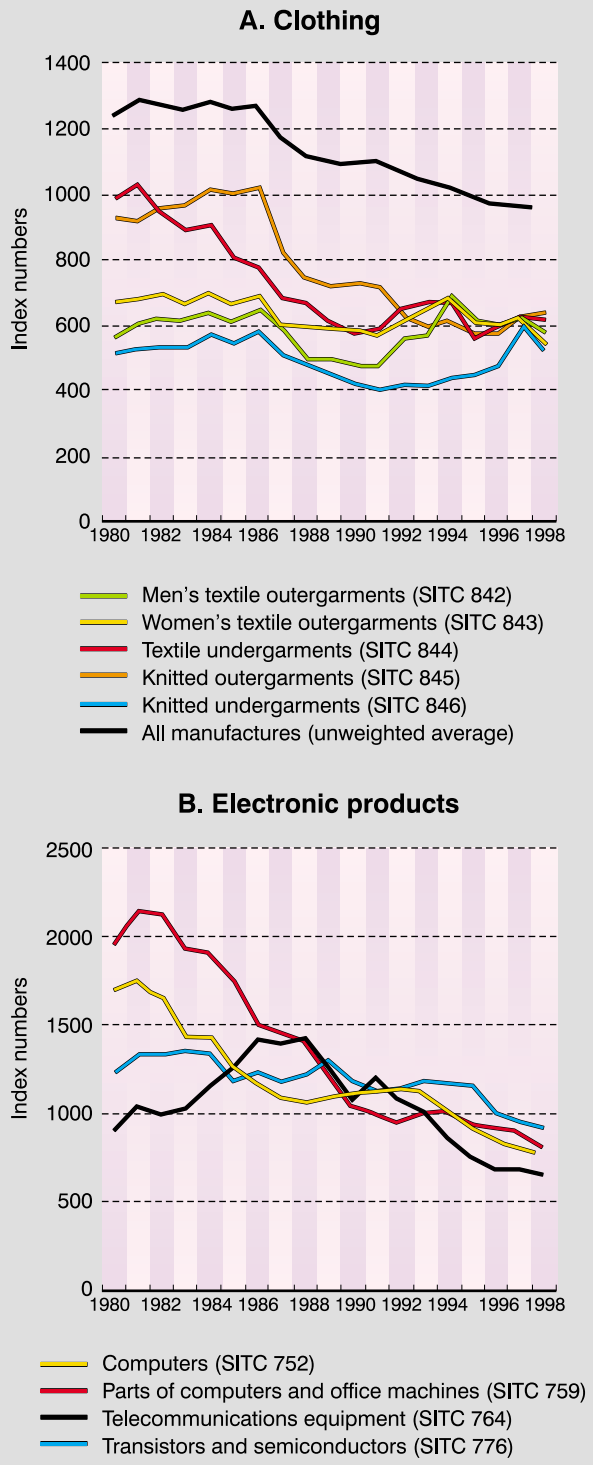
Note: The degree of market concentration for a particular product is expressed as the Herfindahl-Hirschman index (HHI) calculated for each product by taking the sum of the squared values of the market shares of all countries exporting that product, i.e. $HHI_j = \Sigma(S_{ij})^2$ where S_i is the share of country *i* expressed as a percentage of total world exports of product *j*. This means that the HHI ranges between 43, indicating that all 234 countries in the sample have equal shares (i.e. 0.43 per cent) in a product's total exports, and 10 000, indicating that the product is exported by only one country. The index numbers given are averages for 1997 and 1998.

countries. All these factors combined not only introduce greater price flexibility in the markets for developing countries' labour-intensive manufactures vis-à-vis those exported by industrial countries, but also exert a downward pressure on their prices and terms of trade. Without rapid productivity growth, the burden of adjustment naturally falls on labour.[6] In other words, labour-intensive manufactures exported by developing countries behave more like primary commodities than like skill-/technology-intensive manufactures.

In order to assess the degree of competition in world markets for different manufactures, table 4.1 ranks products according to their degree of concentration in export markets in 1997–1998.[7]

Chart 4.1

MARKET CONCENTRATION IN MAJOR WORLD EXPORT ITEMS, 1980–1998



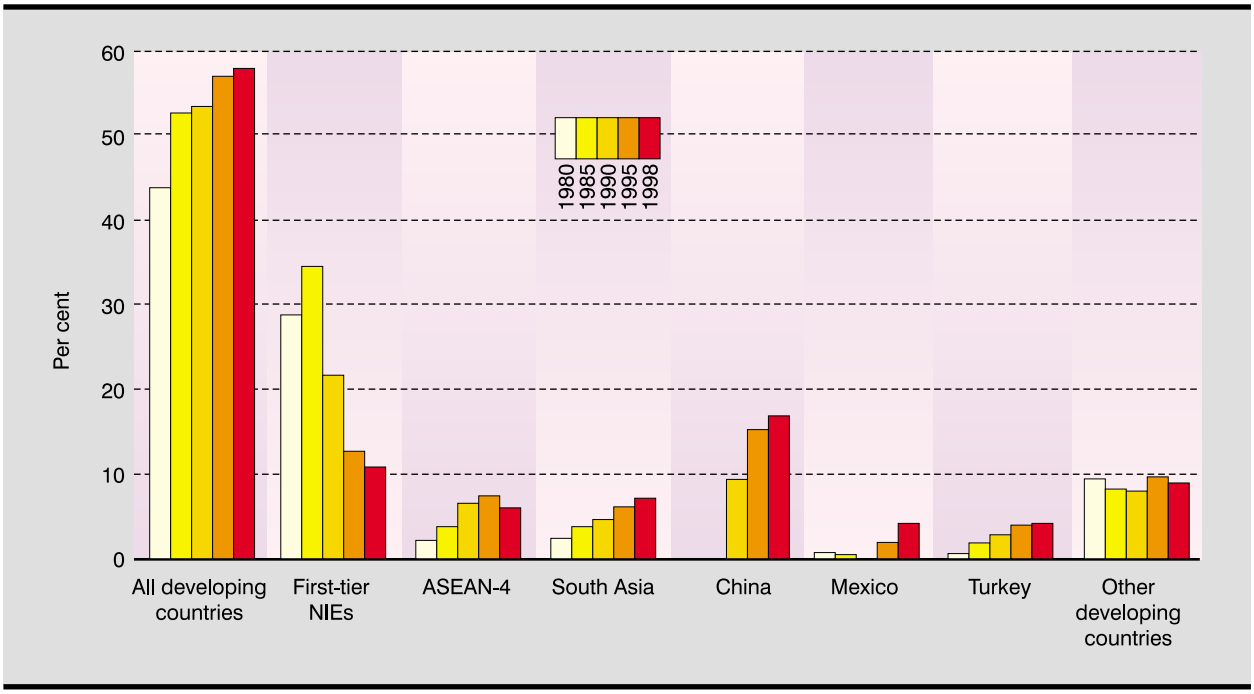
Source: See table 4.1.
Note: On the calculation of the degree of market concentration see note to table 4.1.

The table shows that, together with iron and steel (SITC 67) and textiles (SITC 65), the clothing industry (SITC 84) was the sector with the lowest degree of market concentration: 5 of the 7 product groups in this sector were among the 20 products with the most equal distribution of market shares among exporting countries. It also suggests that the concentration in markets for dynamic electronic and electrical goods was lower than the average for all manufactured products. In other words, on this measure, markets for clothing and electronics have been more competitive than those for most other manufactures. Moreover, the decline in the concentration ratios for the dynamic electronic and electrical goods suggests that markets for these products became more competitive during the period 1990–1998. Indeed, the decline in the degree of concentration in these markets was among the highest of all manufactured products. As noted above, the production of these otherwise technology-intensive products includes labour-intensive processes, in which developing countries have increasingly participated in recent years. By contrast, finished products from technology-intensive activities such as machinery (e.g. non-electric engines and motors, and steam engines) or transport equipment (e.g. aircraft, ships and boats, motor cycles and passenger motor cars) were among those with the highest concentration of export market shares. The vast majority of exporters of these products are from developed countries.

For the group of manufactured products taken together, the degree of market concentration appears to have declined and competition to have increased throughout the period 1981–1998, especially between the mid-1980s and mid-1990s; the timing of such changes in the clothing sector differed from that in the electronics sector (chart 4.1). In clothing, market concentration changed little during the first half of the 1980s, but declined continuously between 1987 and 1991, after which, for most of the products in this group, it started to increase slightly. By contrast, market concentration for the selected products from the electronics industry declined throughout the period 1981–1998; this tendency was particularly pronounced during the second half of the 1980s and of the 1990s. An exception is telecommunications equipment, where the degree of export market concentration rose significantly during the first half of the 1980s and

Chart 4.2

SHARE OF SELECTED DEVELOPING COUNTRIES AND REGIONS IN WORLD CLOTHING EXPORTS, 1980–1998



Source: See table 4.1.
Note: Clothing exports include SITC 842–846. South Asia includes Bangladesh, India, Pakistan and Sri Lanka. Data for China for 1980 and 1985 are not available.

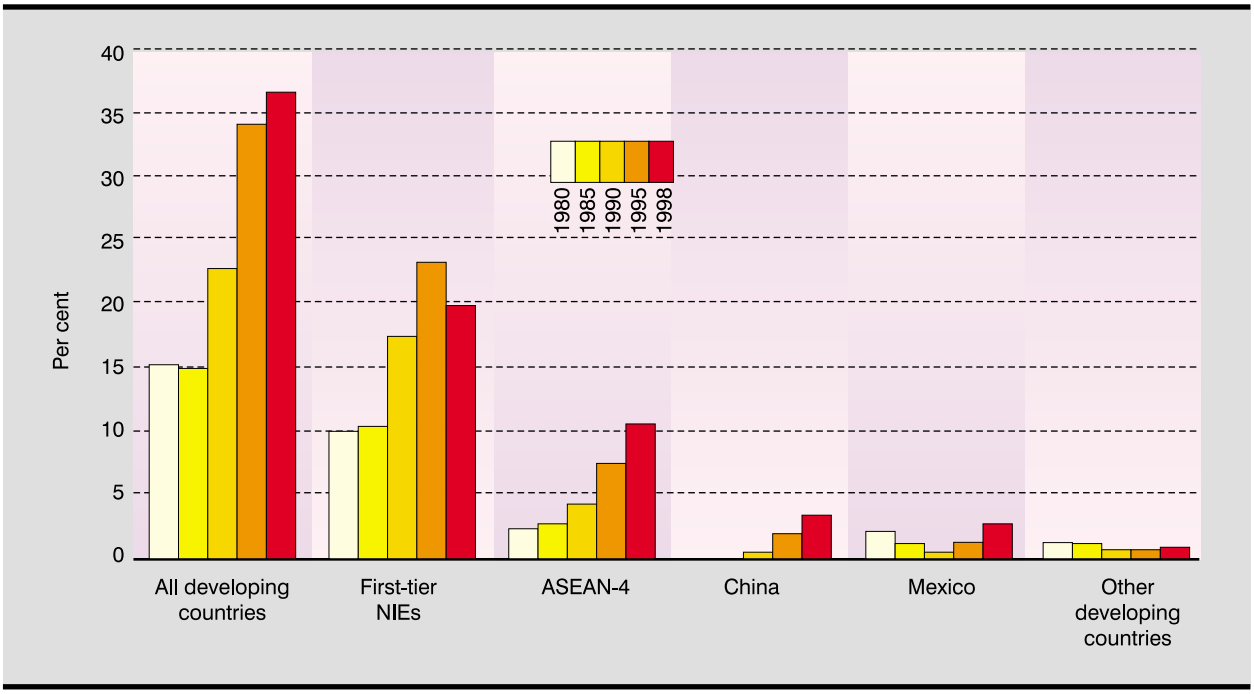
then fell from 1989 onwards. A common characteristic of the clothing and electronics sectors is that the variation in the degree of concentration across markets for different products from these sectors drastically narrowed between 1981 and 1998.[8]

These developments are in line with the evolution of developing countries' participation in the production and export of labour-intensive manufactures. The share of developing countries in world exports grew considerably during the period 1980–1998 for both clothing and selected products from the electronics industry. However, the increase was concentrated in a small number of economies. The first-tier NIEs accounted for two thirds of all clothing exports from developing economies during the first half of the 1980s, but their share dropped thereafter to about one fifth by the mid-1990s, as they upgraded their exports and began to exit from the clothing markets (chart 4.2). Their market shares were taken up by other developing countries in Asia, notably those in South Asia, the ASEAN-4 (see note 3), China, Turkey and Mexico. This has been associated with lower concentration of market shares in clothing, indicating a tendency towards a greater degree of competition among developing countries, notably among the newcomers.

In the markets for the selected products from the electronics sector, first-tier NIEs were responsible for most of the spectacular increase in the share of developing countries in world exports between the 1980s and the mid-1990s: during this period, the share of these economies increased

Chart 4.3

SHARE OF SELECTED DEVELOPING COUNTRIES AND REGIONS IN EXPORTS OF ELECTRONIC PRODUCTS,[a] 1980–1998



Source: See table 4.1

Note: Data for China for 1980 and 1985 are not available.

a Computers (SITC 752), parts of computers and office machines (SITC 759), telecommunications equipment and parts (SITC 764), transistors and semiconductors (SITC 776).

from two thirds to three fourths of all developing country exports of these products (chart 4.3). Other developing countries, such as the ASEAN-4, China and Mexico have succeeded in increasing their market shares in the past few years. The growing price competition in these products, especially in semiconductors, appears to have exposed the traditional developing country exporters to greater competition from lower cost suppliers in other developing countries.

Comparing the trends in the country-specific distribution of export market shares, it is interesting to note that the ASEAN-4 and China have gained market shares in the electronics sector much more rapidly than in clothing. Even though China started from a low base, and its absolute share in world exports of the selected products from the electronics industry is still low, a continuation of recent trends would suggest that China's share in world exports could grow much more in electronics than in clothing.

D. Skill profile of world trade and shifts in competitiveness

An important factor that may affect fallacy of composition in labour-intensive manufactures is the sharp increase in the number of low-skilled workers participating in trade-related activities. Given that most of the countries that have become increasingly integrated into the world trading system over the past few years are highly populated, low-income countries with labour endowments strongly skewed towards low-skilled labour, it is not surprising to find that the proportion of such labour embodied in the products traded in world markets has increased compared to high-skilled labour.

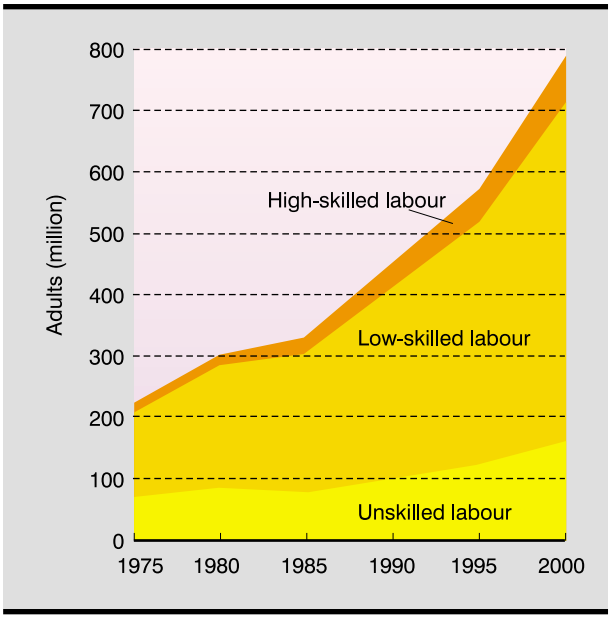
The sharp increase in the number of low-skilled workers participating in trade-related activities is an important reason why developing countries may face the risk of fallacy of composition in labour-intensive manufactures.

To analyse the impact of changes in the rate of participation of the world labour force in international trade and of its skill composition on the pattern of competitiveness in manufacturing across countries and geographical regions, it is convenient to classify a country's labour force according to three categories of skill: labour with no education (unskilled), with basic education (low-skilled), and with substantial post-elementary education and training (high-skilled).[9] Workers without any formal education are generally unsuitable for employment in manufacturing because they lack literacy and numeracy. The distinction between literate and illiterate workers is straightforward, but that between high-skilled workers and workers with basic skills is somewhat arbitrary; it is most likely to be found somewhere between incomplete and complete secondary education. This classification is inevitably a simplification; in reality, there is likely to be a continuum of skills which allows some substitution among workers with different levels of education.[10] Nonetheless, the classification is useful for identifying the order of magnitudes involved and for visualizing the general pattern of change in the skill composition of the labour force participating in world trade.

Chart 4.4 shows that the absolute numbers of unskilled, low-skilled and high-skilled workers participating in world trade have steadily increased over the past 25 years, reflecting the rapid growth in world trade and increased integration. However, the share of unskilled workers in the total labour force participating in world trade has dropped significantly. This reflects the marginalization in the context of world trade of countries with poor human capital. By contrast, the share of low-skilled labour involved in world trade increased, particularly between 1980 and 1990, rising from 64 per cent to 68 per cent, due to the greater participa-

Chart 4.4

SKILL COMPOSITION OF ADULT POPULATION PARTICIPATING IN WORLD EXPORT PRODUCTION, 1975–2000



Source: UNCTAD secretariat calculations, based on Barro and Lee (2000), and UNCTAD, *Handbook of Statistics* (various issues).

Note: Unskilled labour includes adults without schooling. Low-skilled labour includes adults with schooling up to complete secondary education. High-skilled labour includes adults with at least some tertiary schooling. The number of workers at a specific level of skills that are integrated into world exports is the sum of workers at a specific level of skills across all developing and developed countries for which comprehensive data are available (97 countries) weighted by each country's ratio of exports to GDP.

tion of several highly populated low-income countries in world trade. On the other hand, the increase in the share of high-skilled labour, particularly between 1990 and 2000 (rising from about 7 per cent to 10 per cent), appears to reflect the growth in intra-industry trade among developed countries, as well as greater production sharing between developed countries and the first-tier NIEs.

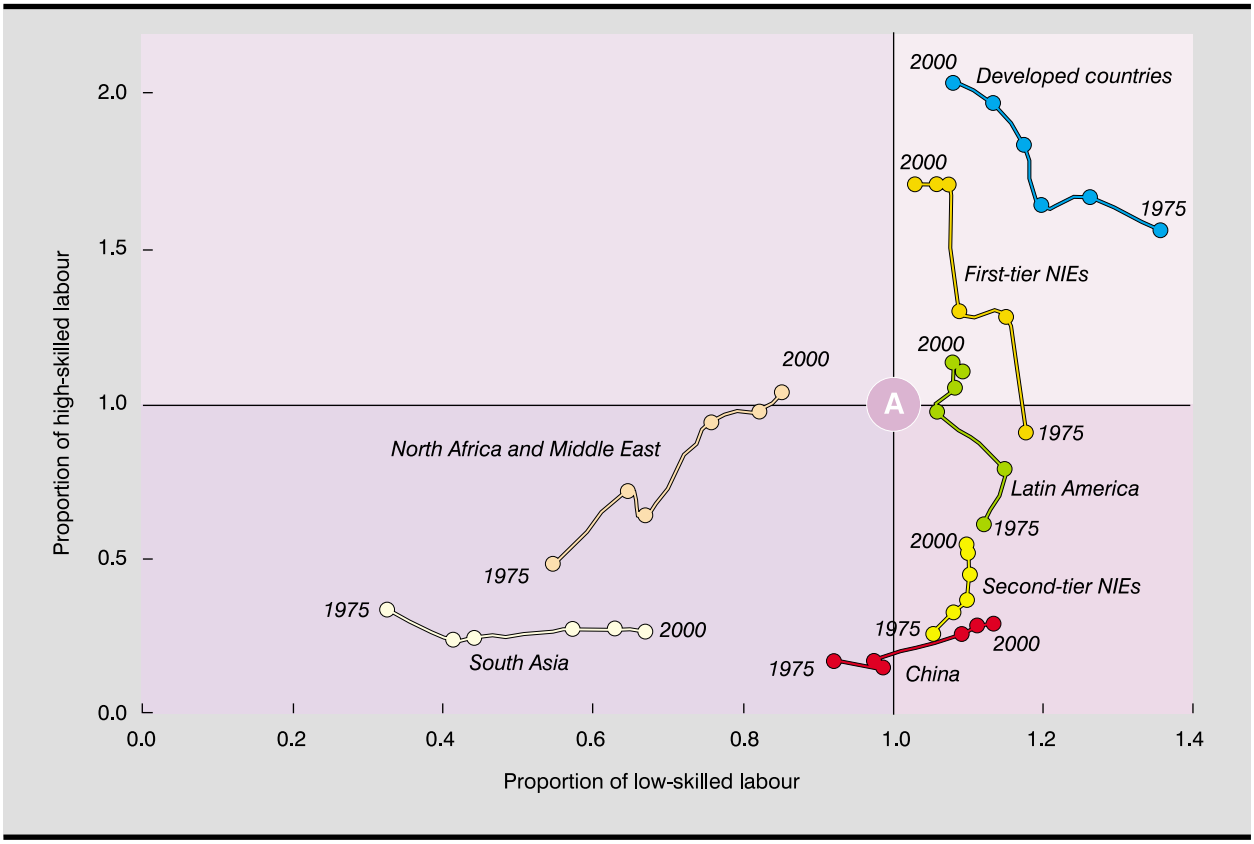
An important consequence of the increase in the number of low-skilled workers participating in world trade is that it has altered the competitiveness of middle-income countries in manufacturing. In these countries the ratio of high-skilled to low-skilled labour tends to be above the average ratio for developing countries taken together, although it is below the average for developed countries. This gives the middle-income countries a competitive edge in low-skill manufactures, but they tend to lose this advantage once the highly populated developing countries with plenty of low-skilled workers become more active participants in world trade. Thus it is imperative that middle-income countries upgrade rapidly from low-skill to more market-dynamic, technology-intensive products with a view to successfully competing with industrialized countries and the first-tier NIEs. If not, they risk being squeezed between the bottom and top ends of the markets for manufactured exports.

Chart 4.5 indicates that countries in Latin America, and probably the second-tier NIEs, have indeed experienced such a squeeze. It shows movements in the skill mix of adult populations of various regions relative to the average skill mix of the total labour force involved in world trade. In the chart, a region which has the same skill mix as the world average would be located at point *A*. Regions located in the south-west quadrant of the chart have higher proportions of unskilled labour than the world average, while those in the north-east quadrant have lower proportions. A horizontal movement in an easterly direction indicates an increase in the region's proportion of low-skilled labour and a decrease in the share of unskilled labour relative to the world average. Countries moving in that direction would be entering into markets for low-skill-intensive manufactures or raising their shares in these markets. Similarly, a vertical movement in a northerly direction indicates an increase in the region's proportion of high-skilled labour and a decrease in the share of unskilled labour relative to the world average. Again countries moving in that direction would be shifting towards increasing their shares in markets for high-skill manufactures from markets for low-skill manufactures.

China and, in particular, the low-income countries of South Asia moved strongly eastwards, especially in the second half of the 1980s. This move reflects the increasing integration of these two groups into world trade as well as the fact that they have a high proportion of low-skilled workers, which gives them a competitive edge

Chart 4.5

REGIONAL SKILL COMPOSITION OF ADULT POPULATION, RELATIVE TO WORLD AVERAGE SKILL COMPOSITION IN EXPORT PRODUCTION, 1975–2000



Source: See chart 4.4.
Note: The chart shows the position of different regions, relative to the world average, which is indicated by point *A*. For further explanations, see text.

over Latin America and the second-tier East Asian NIEs in labour-intensive manufactures (*TDR 1998*, Part Two, chap. IV). This shift underlies, in part, the greater competition in world trade for low-skill manufactures, such as clothing, noted in the previous section. Chart 4.5 also suggests that China and the second-tier NIEs have been moving in a parallel fashion in building their competitiveness. Compared to the world average, for both groups of countries the growth in the number of high-skilled workers seems to have outpaced that of workers with basic skills. This seems to indicate that, in terms of composition of their manufactured exports, both groups of countries have been gaining competitiveness in manufactures that require medium to high skills, such as goods in the electronics sector or other light manufactures. This is also consistent with the finding in the previous section that competition in world markets for products in electronics has increased considerably over the past few years. If this trend continues, this sector will become even more competitive in the years to come. Simulations suggest that in the next few years China's share in world exports of electronics products and other light manufactures could be substantial, and that this will occur independently of China's entry into the World Trade Organization (WTO) (see, for example, Ianchovichina, Martin and Fukase, 2000: 36 and table 10).

E. Tariff barriers to exports of labour-intensive manufactures

1. Barriers in multilateral trading arrangements

As noted above, market access in labour-intensive manufactures is an important determinant of the risk presented by fallacy of composition in these products. Contrary to earlier expectations, developing countries have gained little from the Uruguay Round agreements in terms of access to the markets of industrial countries in these products. There have been some recent initiatives in this area, including preferential market access provided by the EU (the Everything-But-Arms Initiative) and the United States (the African Growth and Opportunity Act). These supplement existing non-reciprocal preferential agreements offered by developed countries, including Canada, Japan and the United States, as well as the EU. The new initiatives are certainly a step in the right direction, but the improved access they offer is restricted to the poorest countries.[11] Given that those countries generally are not large exporters of labour-intensive manufactures, the initiatives do little to improve market access for such exports.

The majority of developing countries with capacity to expand exports of labour-intensive manufactures continues to face significant barriers. Trade in textiles and clothing continues to be governed by quota regulations, and developing countries' manufactured exports encounter high tariffs and tariff escalation as well as increased contingent forms of protection, notably anti-dumping action and new barriers, such as labour and environmental standards. Tariff peaks imposed by developed countries are often concentrated in products that are of export interest to developing countries;[12] they cover mainly labour-intensive manufactures: textiles, clothing, leather and rubber products, footwear and travel goods are subject to tariff peaks in Canada and the United States; and leather, rubber, footwear and travel goods in Japan. In the EU, tariff peaks concern mainly agricultural products, but leather, rubber, footwear and travel goods are the most affected categories within manufactures (WTO, 2001d; UNCTAD/WTO, 2000). The significance of these tariff peaks for developing country exports is reflected in the fact that, taken together, clothing and footwear represent more than 60 per cent of tariff-peak-affected products exported from developing countries to the major industrial countries (Hoekman, Ng and Olarreaga, 2001: 7; also *TDR 1999*, Part Two, chap. VI). Moreover, most developed countries' tariffs increase with the level of processing, particularly for labour-intensive products such as textiles, clothing, leather and leather products (WTO, 2001d: 36–39). Such products are often excluded from preferential tariff schemes – such as the Generalized System of Preferences (GSP) – or are subject to some kind of quantitative limitations, and imports from only selected countries are eligible for preferential rates. Thus many de-

veloping countries have little protection against tariff peaks and tariff escalation.

The previous chapter showed that trade in manufactures is expanding rapidly among developing countries themselves, and that access to each others' markets is becoming increasingly important. According to one view, developing countries themselves could significantly reduce the risk of fallacy of composition by lowering tariff barriers that affect exports of other developing countries. This argument is based on the observation that, despite considerable reform, applied tariffs on manufactures are, on average, higher in developing than in developed countries. However, such an argument could be relevant only with respect to high- and middle-income developing countries to the extent that they continue to produce labour-intensive manufactures behind tariff barriers, rather than upgrading their production and exports to skill-/technology-intensive products.

The large majority of developing countries with capacity to expand exports of labour-intensive manufactures continue to face significant barriers.

Thus it is important to note the great variation in protection across developing countries; the level of protection through tariff and non-tariff measures is indeed lower in middle- and high-income than in low-income countries, and tariff liberalization has been especially impressive in a group of 15 to 20 middle- and high-income countries in Latin America and Asia.[13] This is important because, for the most part, middle- and high-income developing countries do not have a comparative advantage in producing labour-intensive manufactures, and also because the import demand for these products tends to be higher in countries at a comparatively higher level of income.

Evidence challenges the contention that trade restrictions among developing countries themselves play a central role in the problems associated with the risk of fallacy of composition in traditional labour-intensive manufactures.

Tables 4.2 and 4.3 give simple and import-weighted most favoured nation (MFN) tariff rates as applied to selected categories of manufactured imports by developed and developing economies.[14] A comparison of the simple MFN average tariff rate on manufactured imports as a group with those applied in selected sectors (table 4.2) confirms that developed countries apply higher import tariffs to traditional labour-intensive manufactures (textiles, clothing, leather and travel goods, and footwear) than to other products, and that within the group of traditional labour-intensive manufactures import tariffs are highest for clothing and footwear. The comparison also shows that the low-income countries in Africa and Asia have, on average, higher tariffs than the middle- and high-income developing countries.

Comparing the tariff levels across different country groups, the table reveals that the first-tier NIEs apply, on average, lower tariffs than developed countries to all of the selected traditional labour-intensive manufacturing sectors. The tariffs applied by middle-income countries in East Asia and Latin America are much higher than those applied by the first-tier NIEs, which suggests that these countries are facing difficulties in industrial upgrading. However, the tariffs applied by leading developing country importers in East Asia (such as Indonesia, Malaysia, the Philippines) and Turkey are well within the range of developed country tariff rates in these sectors, and those applied, on average, in Latin America are not much higher than those in some of the developed countries.

Moreover, the simple average tariff rates applied in the traditional labour-intensive manufacturing sectors by a group of 22 high- and middle-income developing countries (which does not include the first-tier NIEs) is, in all cases, well within the 12 to 30 per cent range of the tariff rates applied to a large number of products in the textiles and clothing industries in Canada, the EU and the

Table 4.2

SIMPLE MFN AVERAGE TARIFFS OF SELECTED ECONOMIES, BY PRODUCT GROUP

(Per cent)

Importing economy/region	*Manufactures (SITC 5–8 less 68)*	*Textiles (SITC 65)*	*Clothing (SITC 84)*	*Leather and travel goods (SITC 611, 612, 831)*	*Footwear (SITC 85)*	*Computers and office equipment (SITC 75)*	*Telecom, audio and video equipment (SITC 76)*
Developed countries	**4.1**	**7.8**	**14.5**	**5.0**	**13.7**	**0.3**	**2.6**
Australia	5.4	9.9	20.7	4.7	11.1	0.3	5.4
Canada	4.9	10.7	18.4	4.2	16.3	0.2	1.5
European Union	4.4	7.9	11.4	3.3	12.4	0.8	4.1
Japan	2.9	6.5	11.0	10.2	19.2	0.0	0.0
New Zealand	3.1	2.4	13.7	2.7	9.5	0.3	3.0
United States	4.0	9.1	11.4	5.0	13.4	0.4	1.6
Developing economies							
First-tier NIEs	**3.6**	**4.5**	**6.4**	**2.8**	**4.3**	**2.3**	**4.3**
Hong Kong (China)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Republic of Korea	8.0	9.4	12.4	6.5	12.2	7.3	8.0
Singapore	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Taiwan Province of China	6.4	8.3	13.1	4.6	5.0	1.6	8.1
ASEAN-4	**10.6**	**14.7**	**24.1**	**10.8**	**23.6**	**5.8**	**14.4**
Indonesia	9.0	12.6	18.1	8.8	17.8	3.8	13.9
Malaysia	9.9	16.7	19.6	9.5	26.8	2.0	13.1
Philippines	7.4	10.7	19.2	7.8	15.0	1.0	10.9
Thailand	16.1	18.7	39.7	17.3	34.8	16.4	19.5
South Asia	**21.4**	**24.2**	**29.4**	**22.1**	**33.6**	**14.0**	**22.3**
Bangladesh	22.1	30.2	..	17.1	..	9.4	22.5
India	34.1	39.0	40.0	32.3	40.0	28.9	37.0
Sri Lanka	8.0	3.4	11.0	17.0	23.2	3.6	7.4
Other Asia	**12.5**	**14.3**	**20.8**	**19.3**	**25.8**	**8.3**	**17.2**
China	9.6	9.7	16.1	13.0	20.4	4.0	13.7
Jordan	22.1	24.7	34.6	34.9	35.0	17.5	31.8
Turkey	5.9	8.6	11.8	10.0	22.1	3.5	6.3
Latin America	**11.9**	**15.8**	**20.8**	**14.1**	**20.8**	**8.3**	**13.6**
Argentina	16.1	20.1	22.9	17.4	33.0	12.3	18.6
Bolivia	9.6	10.0	10.0	10.0	10.0	10.0	10.0
Brazil	16.8	20.0	22.9	17.1	24.6	17.7	20.5
Chile	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Colombia	12.1	18.0	19.9	13.1	20.0	5.1	13.3
Costa Rica	4.8	8.3	13.8	8.7	13.7	0.0	5.7
Dominican Republic	14.6	20.5	30.6	22.8	23.4	10.0	14.6
El Salvador	6.9	17.0	23.9	9.5	20.0	0.0	6.2
Jamaica	5.6	3.2	19.4	7.6	18.2	0.0	14.7
Mexico	17.3	20.5	34.4	21.4	34.9	16.1	20.1
Paraguay	13.7	19.5	22.4	16.9	22.2	9.2	14.1
Peru	13.3	17.0	19.3	12.8	20.0	12.0	12.0
Uruguay	14.7	20.1	22.9	17.5	23.0	8.7	18.0
Venezuela	12.3	18.0	19.9	13.4	20.0	6.1	14.2
North Africa	**25.9**	**38.4**	**44.1**	**33.8**	**44.5**	**15.6**	**25.4**
Algeria	24.1	35.3	44.5	26.7	45.0	17.7	31.3
Egypt	22.3	42.0	39.7	26.6	40.0	12.1	20.0
Morocco	28.2	38.2	49.6	44.2	50.0	11.3	9.2
Tunisia	28.7	38.0	42.6	37.8	43.0	20.9	36.0
Sub-Saharan Africa	**16.8**	**21.8**	**34.5**	**19.6**	**26.9**	**15.5**	**23.9**
High- and middle-income developing economies[a]	**14.6**	**19.5**	**26.9**	**16.8**	**25.1**	**10.3**	**15.3**
Leading developing economy importers[b]	**9.0**	**11.3**	**17.0**	**9.9**	**18.1**	**7.0**	**11.2**

Source: UNCTAD secretariat calculations, based on UNCTAD and World Bank, *World Integrated Trade Solution* database.

Note: The tariff rates are for the most recent year for which data was available.

a Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Egypt, El Salvador, Indonesia, Malaysia, Mauritius, Mexico, Morocco, Paraguay, Peru, the Philippines, Thailand, Tunisia, Turkey, Uruguay and Venezuela.

b Brazil, China, Hong Kong (China), Malaysia, Mexico, Republic of Korea, Singapore, Taiwan Province of China, Thailand and Turkey. Classification is based on import data for 1998–1999.

Table 4.3

IMPORT-WEIGHTED MFN AVERAGE TARIFFS OF SELECTED ECONOMIES, BY PRODUCT GROUP

(Per cent)

Importing economy/region	*Manufactures (SITC 5–8 less 68)*	*Textiles (SITC 65)*	*Clothing (SITC 84)*	*Leather and travel goods (SITC 611, 612, 831)*	*Footwear (SITC 85)*	*Computers and office equipment (SITC 75)*	*Telecom, audio and video equipment (SITC 76)*
Developed countries	**3.1**	**8.1**	**12.2**	**6.9**	**13.0**	**0.1**	**1.7**
Australia	4.7	10.3	21.9	5.1	12.6	0.1	4.5
Canada	3.2	10.0	18.3	5.1	15.1	0.0	0.8
European Union	3.5	8.2	11.7	4.1	11.2	0.1	3.7
Japan	2.2	5.9	11.7	10.3	17.4	0.0	0.0
New Zealand	3.7	3.6	14.2	3.4	10.4	0.1	2.7
United States	3.0	8.1	12.0	8.7	12.8	0.0	0.9
Developing economies							
First-tier NIEs	**1.8**	**1.7**	**1.2**	**0.7**	**0.4**	**0.9**	**1.2**
Hong Kong (China)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Republic of Korea	6.2	8.6	12.7	6.1	12.9	7.6	8.0
Singapore	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Taiwan Province of China	3.3	5.4	13.2	3.7	6.4	0.4	3.7
ASEAN-4	**6.5**	**14.3**	**22.2**	**7.1**	**21.4**	**1.7**	**6.8**
Indonesia	6.7	11.6	19.2	3.9	18.4	1.8	11.4
Malaysia	5.8	17.7	19.5	7.5	25.4	0.1	6.7
Philippines	3.3	9.7	19.4	8.4	15.0	0.0	2.7
Thailand	10.3	17.4	31.1	9.3	37.4	5.8	11.4
South Asia	**26.7**	**20.5**	**22.3**	**24.6**	**34.7**	**15.7**	**21.7**
Bangladesh	21.7	34.8	..	16.9	..	2.4	17.2
India	31.4	38.3	39.7	27.8	40.0	18.0	28.0
Sri Lanka	5.4	1.0	11.2	13.3	24.1	0.5	3.0
Other Asia	**5.9**	**9.0**	**15.3**	**7.9**	**22.7**	**0.4**	**6.5**
China	5.8	8.9	14.9	7.9	14.9	0.1	6.2
Jordan	19.9	26.3	34.9	35.0	35.0	11.4	32.1
Turkey	5.8	8.6	11.8	7.4	23.5	2.3	6.3
Latin America	**14.1**	**19.0**	**28.3**	**19.3**	**22.8**	**8.5**	**14.9**
Argentina	15.3	20.1	22.8	19.0	33.0	6.9	11.8
Bolivia	9.0	10.0	10.0	10.0	10.0	10.0	10.0
Brazil	15.9	18.9	22.4	14.3	26.6	14.6	16.2
Chile	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Colombia	10.5	17.1	19.5	16.1	20.0	5.0	8.7
Costa Rica	3.9	7.6	13.9	9.0	13.9	0.0	4.1
Dominican Republic	17.8	21.1	27.1	22.0	23.6	10.0	14.1
El Salvador	5.5	14.7	23.9	8.6	20.0	0.0	1.7
Jamaica	10.0	4.1	19.1	17.1	18.6	0.0	5.2
Mexico	14.8	20.3	34.7	21.6	34.9	7.6	17.3
Paraguay	11.7	15.6	21.1	17.3	17.5	5.3	9.1
Peru	12.3	16.6	18.8	12.9	20.0	12.0	12.0
Uruguay	14.4	19.9	22.9	13.4	23.0	4.4	10.2
Venezuela	13.3	17.4	19.8	17.4	20.0	5.4	8.7
North Africa	**22.6**	**38.7**	**44.7**	**38.8**	**44.0**	**7.1**	**11.0**
Algeria	18.7	29.6	44.2	35.0	45.0	6.8	20.8
Egypt	17.6	31.0	38.4	30.0	40.0	9.2	13.3
Morocco	25.3	38.9	50.0	45.0	50.0	4.2	4.8
Tunisia	30.2	41.5	41.5	36.1	43.0	8.2	27.9
Sub-Saharan Africa	**14.7**	**19.1**	**33.1**	**23.5**	**25.9**	**14.7**	**20.3**
High- and middle-income developing economies[a]	**11.6**	**19.9**	**29.9**	**17.1**	**23.7**	**5.4**	**12.5**
Leading developing economy importers[b]	**6.1**	**8.0**	**8.1**	**5.1**	**2.1**	**1.9**	**6.0**

Source: See table 4.2.

Note: The tariff rates are for the most recent year for which data was available.

a Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Egypt, El Salvador, Indonesia, Malaysia, Mauritius, Mexico, Morocco, Paraguay, Peru, the Philippines, Thailand, Tunisia, Turkey, Uruguay and Venezuela.

b Brazil, China, Hong Kong (China), Malaysia, Mexico, Republic of Korea, Singapore, Taiwan Province of China, Thailand and Turkey. Classification is based on import data for 1998–1999.

United States, and substantially lower than the tariff peaks in excess of 35 per cent applied to 10 per cent of the products in the footwear and leather products industries in Japan.[15] In addition, the simple tariff averages applied in the selected traditional labour-intensive sectors by the 10 leading developing country importers are substantially lower than those applied by the group of high- and middle-income developing countries, and they are not much higher than those applied by some of the developed countries. Finally, there is no developing country that imposes quota regulations on imports under the WTO Agreement on Textiles and Clothing (ATC). Taken together, the evidence challenges the contention that trade restrictions among developing countries themselves play a central role in the problems associated with the risk of fallacy of composition in traditional labour-intensive manufactures.

As already noted, over the past few years, developing countries have considerably increased their share in world exports of goods from the electronics sector by participating in the labour-intensive segments of international production networks. While simple average tariffs applied by low-income countries are higher than those applied by middle- and high-income developing countries on products from the electronics sector, these tariffs are, with few exceptions, lower in developed than in developing countries, as shown in the last two columns of table 4.2. For a number of reasons, aggregate data on import tariffs are unlikely to reflect fully the market access conditions prevailing in electronics; for instance, trade relationships in these sectors are often based on specific market access regulations or on exchanges between subsidiaries of a multinational enterprise that may enjoy preferential conditions. However, the enterprise-specific evidence required to analyse such trade relationships is unavailable. Nonetheless, the aggregate tariff data suggest that, for both developed and developing countries, market access conditions for the electronics sector are much more favourable than for the traditional labour-intensive manufacturing sector.

The pattern of import-weighted tariffs (table 4.3) is essentially the same as that of simple tariffs.[16] However, the trade-weighted tariffs in the traditional manufacturing sectors applied by developed countries, particularly to textiles and clothing, are in almost all cases higher than simple tariffs, while the opposite holds true for a large number of leading developing economy importers, including the first-tier NIEs, Turkey and a number of Latin American countries such as Argentina, Brazil, Chile and Colombia. As a result, the import-weighted average tariffs on textiles, clothing, leather goods and footwear that are applied by the 10 leading developing country importers are below those applied by the major developed countries.

2. Preferential trading arrangements and market access

There has been a rapid growth in recent years in the number of preferential trade agreements (PTAs) which discriminate against non-member countries in market access, including in labour-intensive manufactures. A number of such arrangements also involve developing countries. The evidence, however, shows that PTAs among developing countries alone tend to be less restrictive for non-members than those between developed and developing countries. In the latter cases, as described in annex 3 to chapter III, developing country members often gain considerable advantage over non-members in access to markets of developed country members in labour-intensive manufactures such as clothing. This alters the distribution of market shares among developing countries, and the outcome is not always favourable to poorer countries. In fact, by allowing more advanced developing countries greater access to markets for labour-intensive manufactures, these arrangements can distort incentives and delay technological upgrading.

The impact of PTAs on trade flows in labour-intensive manufactures depends on the degree of preferences given to members. This can be assessed by the difference between MFN tariffs and effectively applied tariffs; the lower the effectively applied tariffs compared to the MFN tariffs, the higher the trade barriers to non-members. Table 4.4 gives the import-weighted MFN tariffs and effectively applied tariffs in the two most prominent PTAs among developing countries (Southern Common Market – MERCOSUR) and the ASEAN

Table 4.4

EFFECTIVELY APPLIED AVERAGE TARIFFS OF SELECTED COUNTRIES IN MERCOSUR AND AFTA, BY PRODUCT GROUP

(Per cent)

Importing country	*Manufactures (SITC 5–8 less 68)*	*Textiles (SITC 65)*	*Clothing (SITC 84)*	*Leather and travel goods (SITC 611, 612, 831)*	*Footwear (SITC 85)*
MERCOSUR					
Argentina	11.8	11.6	15.7	15.3	11.9
Brazil	15.2	18.9	22.4	15.2	26.6
Paraguay	10.8	14.1	16.4	16.6	17.2
Uruguay	8.1	11.6	12.5	4.5	12.2
AFTA					
Indonesia	5.8	11.2	19.1	3.1	17.3
Malaysia	5.5	16.1	16.7	6.7	23.5
Philippines	2.9	10.8	17.6	8.0	15.0
Singapore	0.0	0.0	0.0	0.0	0.0
Thailand	10.3	17.4	31.1	9.3	37.4

Source: See table 4.2.
Note: The tariff rates are for the most recent year for which data was available.

Free Trade Agreement (AFTA). A comparison of the applied tariffs in table 4.4 with the MFN tariffs in table 4.3 shows that among the high- and middle-income member countries of AFTA for which data are available, only in Malaysia are import-weighted preferential tariff rates lower than the import-weighted MFN tariffs, while in MERCOSUR this is true for all countries except Brazil. This is likely to reflect the fact that the AFTA countries generally have significantly lower MFN tariffs than the member countries of MERCOSUR. But it is also noteworthy that the difference between the two tariffs is particularly large for Argentina and Uruguay; in these countries the effectively applied tariffs on most of the traditional labour-intensive manufactures are only half the MFN tariffs.

Clearly, tariff differentiation between members and non-members is expected to favour imports from member countries at the expense of non-members. However, such arrangements do not simply divert trade; they may also create trade if they help accelerate growth. As can be seen in table 4.5, trade within MERCOSUR and AFTA has been growing much faster than imports from non-members, both in aggregate and for selected labour-intensive manufactures (table 4.5). During the period 1990–1999, total intraregional imports increased on average by about 16 per cent a year in MERCOSUR and by 11 per cent in AFTA, while extraregional imports increased by about 12 per cent for MERCOSUR and by about 6 per cent for AFTA. However, in MERCOSUR growth of imports from non-members substantially exceeded the average rate of growth of world imports (6 per cent), while in AFTA it kept pace with the growth in world imports. In MERCOSUR, imports of labour-intensive manufactures, both from members and non-members, grew faster than world imports in almost all product categories listed in table 4.5. In AFTA, imports from members grew faster than world imports in all sectors except footwear and telecommunications equipment, while the rate of growth in imports from non-members exceeded that in world imports only in clothing and office machines. Therefore, on this measure, the evidence suggests that, despite tariff differentiation, these fast growing PTAs have not had negative effects on total trade with non-members.[17] This

Table 4.5

INTRAREGIONAL IMPORTS OF MERCOSUR AND AFTA, 1980–1999

(Per cent)

	Share in total imports			Growth rate		***Memo item:*** *Growth rate of extraregional imports*	
	1990	*1995*	*1999*	*1980–1989*	*1990–1999*	*1980–1989*	*1990–1999*
MERCOSUR							
All products	14.5	18.1	19.1	13.0	15.7	10.2	11.5
Manufactures	12.0	13.9	15.1	10.9	18.6	6.9	15.2
Textiles	29.8	25.2	30.6	10.5	18.5	-1.8	18.0
Clothing	52.1	21.8	27.8	4.8	15.7	-20.3	29.8
Footwear	12.1	23.3	51.2	-1.5	45.5	-9.3	16.1
Leather goods	63.1	49.0	46.3	74.3	1.2	24.3	9.2
Computers and office equipment	2.0	1.7	5.8	-2.5	33.5	9.5	18.1
Telecom, audio and video equipment	3.1	2.7	5.0	-1.4	24.1	2.8	17.4
AFTA							
All products	15.1	17.1	21.2	8.7	10.7	7.9	5.8
Manufactures	11.8	15.8	21.3	20.0	14.6	10.2	6.0
Textiles	8.0	10.6	13.9	12.0	7.2	10.8	0.1
Clothing	53.8	48.9	51.5	24.0	6.6	13.3	7.7
Footwear	30.5	26.6	29.7	17.8	3.2	11.2	3.6
Leather goods	4.9	5.9	8.5	13.0	10.3	19.8	3.2
Computers and office equipment	24.8	37.6	37.1	75.0	19.9	27.6	12.4
Telecom, audio and video equipment	30.0	30.1	28.1	34.2	3.1	12.2	4.2
Memo item:							
WORLD							
All products	.	.	.	6.7	5.9	.	.
Manufactures	.	.	.	10.2	6.9	.	.
Textiles	.	.	.	8.2	3.5	.	.
Clothing	.	.	.	11.2	6.2	.	.
Footwear	.	.	.	8.9	5.0	.	.
Leather goods	.	.	.	12.4	5.7	.	.
Computers and office equipment	.	.	.	17.8	11.2	.	.
Telecom, audio and video equipment	.	.	.	13.0	9.8	.	.

Source: UNCTAD secretariat calculations, based on UN/DESA, *Commodity Trade Statistics* database.

result also holds true for trade in labour-intensive manufactures, although the evidence is more varied for AFTA. Consequently, it gives further support to the argument (cited earlier) challenging the contention that trade restrictions among developing countries themselves have been a key reason for fallacy of composition in the traditional labour-intensive manufacturing sectors.

By contrast, preferential market access provided to developing countries in PTAs between developed and developing countries appears to

Table 4.6

CLOTHING AND FOOTWEAR IMPORTS OF THE EUROPEAN UNION AND THE UNITED STATES AND RELATED IMPORT-WEIGHTED TARIFFS, BY REGION, 1990–1999

(Per cent)

	Clothing					Footwear				
	Tariffs		Import shares			Tariffs		Import shares		
	MFN	Effectively applied				MFN	Effectively applied			
	2000		1990	1995	2000	2000		1990	1995	2000
Imports of the European Union from										
Countries with preferential market access[a]										
North Africa	12.2	0.0	4.9	6.8	7.2	8.3	0.0	0.6	1.5	1.8
Eastern Europe	12.2	0.0	3.6	9.9	10.9	9.5	0.0	2.6	6.0	7.5
Turkey	12.0	0.0	5.4	6.7	7.4	10.4	0.0	0.1	0.2	0.1
Other economies										
China	11.1	9.2	5.1	7.7	10.6	12.4	8.7	2.8	7.6	11.1
India	10.8	9.0	2.8	3.9	3.4	8.2	5.7	1.0	1.3	1.6
Mexico	9.9	6.0	0.0	0.0	0.0	8.6	4.5	0.2	0.1	0.1
NIEs	11.9	11.9	11.1	8.1	8.6	11.3	11.2	11.5	4.7	3.9
ASEAN-4	10.8	8.9	4.2	4.8	5.5	11.6	8.1	4.9	9.6	7.6
Imports of the United States from										
Countries with preferential market access										
Mexico	12.9	0.8	2.6	7.0	13.1	11.2	3.9	1.2	1.4	1.9
Other economies										
China	9.3	9.3	13.6	14.9	13.3	14.4	14.4	16.1	49.7	62.9
India	11.5	11.3	2.6	3.3	3.2	7.3	7.3	0.5	0.7	0.8
North Africa	11.8	11.8	0.4	0.7	0.8	7.5	7.5	0.0	0.0	0.0
Eastern Europe	13.1	13.0	0.5	0.7	0.6	7.3	7.3	0.7	0.9	0.8
NIEs	12.6	12.6	40.6	22.2	15.0	14.2	14.2	44.8	8.1	2.0
ASEAN-4	11.8	11.6	11.2	13.6	12.1	13.2	13.2	6.0	12.5	7.5
Turkey	11.5	11.4	1.3	1.7	1.7	13.5	13.5	0.0	0.0	0.0

Source: UNCTAD secretariat calculations, based on UNCTAD and World Bank, *World Integrated Trade Solution* database and UN/DESA, *Commodity Trade Statistics* database.

Note: *Eastern Europe* includes: Bulgaria, Czech Republic (1995 and 2000), Czechoslovakia (1990), Estonia (1995 and 2000), Hungary, Latvia (1995 and 2000), Lithuania (1995 and 2000), Poland, Romania, Slovakia (1995 and 2000) and Slovenia (1995 and 2000). *North Africa* includes: Egypt, Morocco and Tunisia. *NIEs* include: Hong Kong (China), Republic of Korea, Singapore and Taiwan Province of China. *ASEAN-4* includes: Indonesia, Malaysia, the Philippines and Thailand.

a For the types of preferential trade agreements, see WTO (2000).

have a much greater impact on the distribution of market shares in traditional labour-intensive manufactures. Table 4.6 shows that import-weighted effectively applied tariffs by the EU and the United States on clothing and footwear imported from their respective partners in PTAs are lower than they are for those imported from non-member developing countries, and that they are significantly lower than MFN tariffs. This explains why the shares of North African and Eastern European countries and Turkey in clothing imports of the EU have grown considerably over the past

decade compared to countries which are known to have a competitive edge in these products. Even for such a strong competitor as China, growth in exports lagged, on average, behind that of countries with preferential market access. It is also notable that the performance of the Eastern European countries and Turkey is much less impressive in the United States market, where they do not benefit from the same preferential treatment. Similarly, by virtue of its membership of NAFTA, Mexico's performance in the United States clothing market is much more impressive than that of other developing country exporters and that of its own exports in the EU market. A similar pattern applies to footwear imports by the EU and the United States from their respective trading partners.

F. Policy responses

Although the preceding analysis shows a complex and nuanced picture, there is enough evidence that there might be a risk of excessive competition among developing countries in world markets for labour-intensive products and for FDI through participation in the labour-intensive segments of international production networks. This could disrupt the development process by causing significant terms-of-trade losses and create frictions in the global trading system. To what extent such potential problems can be avoided will depend on three sets of factors:

- First, on faster growth of markets for labour-intensive manufactures in more advanced economies – both the industrialized countries and the first-tier NIEs – which in turn depends on faster income growth as well as improved market access;

- Second, on how quickly the middle-income countries are able to move out of labour-intensive manufactures and create space for lower-income countries, both in the markets of advanced industrial countries and in their own markets; and

- Finally, emphasizing expansion of developing countries' domestic markets for overcoming their deep-seated problems of unemployment and poverty.

Regarding potential markets in industrial countries, it was estimated in *TDR 1999* that by the year 2005 developing countries would be able to earn an additional $700 billion from annual exports of a number of low-technology, labour-intensive products if protectionist barriers were dismantled. This amounts to about 35 per cent of the total export earnings or 60 per cent of earnings from manufactured exports that the developing countries registered at the beginning of 2000. However, as discussed above, recent developments in trade policies in industrial countries show that there are difficulties in the easing of restrictions in such sectors.

In particular, there are concerns over the implementation of the ATC; simulations on the sectoral impact of the removal of quotas in the importing countries lead some to believe that the safeguards included in that agreement to prevent "serious damage" to domestic industry might be

invoked by countries in North America and the EU to delay the removal of remaining quotas (Walmsley and Hertel, 2001). But even if trade in textiles and clothing were to be brought fully under WTO rules, it could still be impeded by relatively high tariffs and tariff escalation in the main developed country importers.

The mounting pressure in industrialized countries to raise the level of protection in trade stems from the coincidence of high unemployment levels and growing wage inequality in these countries with sharp increases in labour-intensive manufactured imports from developing countries. While there is little doubt that rapid trade liberalization and surges in imports can cause dislocations in the labour market, the link between trade and employment in the industrialized countries cannot be considered independently of their overall macroeconomic conditions and labour market policies.[18] As discussed in greater detail in *TDR 1995* (Part Two, chap. II), labour market problems in these countries are rooted in slow and erratic growth and a reluctance to undertake the structural reforms needed to adjust to sectoral dislocations brought about by greater integration into the multilateral trading system (see also UNCTAD, 2001b).

A return to rapid and sustained growth and full employment policies in the industrialized countries is crucial for averting problems associated with fallacy of composition and potential frictions within the multilateral trading system.

It is notable that the export performance of the NIEs (which account for two thirds of the increase in import penetration of manufactures by the developing countries) has not been without precedent in the past 50 years. For example, between 1958 and 1975 penetration of goods from both Japan and Italy into the United States market and the national markets of what were the other five members of the then European Economic Community (EEC) was on a scale comparable to the rise of today's late industrializers. Neither in Europe nor in the United States were these developments associated with labour market problems of the kind experienced in the past two decades; rather, the increasing flow of manufactures from Italy to its EEC partners was accompanied by a large migration of labour in the same direction to meet labour shortages. Thus a return to rapid and sustained growth and full employment policies in the industrialized countries is crucial for averting problems associated with fallacy of composition and potential frictions within the multilateral trading system.

The growth in trade among developing countries noted in the previous chapter also opens new opportunities for avoiding difficulties in markets for labour-intensive products. In particular, industrial upgrading in more advanced developing countries would allow new players to take over labour-intensive activities in line with the "flying geese paradigm" (*TDR 1996*, Part Two, chap. I); this would open up space for them in their own markets as well as in the markets of the more advanced economies. This has already happened to a certain extent: China and the other highly populated, low-income countries that have adopted more export-oriented strategies gained much of the market shares given up by the first-tier NIEs when these economies shifted to more capital- and technology-intensive exports. However, because of the failure to undertake timely industrial upgrading, some exporters from the middle-income countries in Latin America and the second-tier NIEs appear to have been negatively affected. Their problems can be aggravated if highly populated countries such as China and India rapidly expand their exports in labour-intensive manufactures. As already noted, upgrading in many of these countries, notably Mexico and the second-tier NIEs, should include the objective of replacing imported components and parts with domestically produced ones, as well as increased reliance on domestic markets (*TDR 2000*: 68–71).

Certainly, the industrial upgrading needed in the middle-income countries depends, to a large extent, on the policies they pursue in such areas as trade, industry and technology; the kinds of policies adopted by the first-tier NIEs for this purpose and the options available are well known.[19] While multilateral trade agreements have restricted the ability to employ some national policies involving support and protection for industries, there

is still some policy space for upgrading by the middle-income countries, particularly if this set of issues is kept in mind in the forthcoming multilateral trade negotiations in the WTO.

The outcome will also depend on the extent to which large economies such as China, India and Indonesia will rely on foreign markets to create jobs and incomes for large segments of their population. It is true that growth of manufacturing and industrialization in the first-tier NIEs depended heavily on expansion of exports, particularly at the early stages of their development. However, these countries were poor in natural resources, and this necessitated a rapid move into labour-intensive manufacturing to earn the foreign exchange needed for imports of capital goods and some essential primary commodities such as oil. Moreover, their small size – collectively their population is smaller than that of Guangdong province in China – and hence small domestic market, meant that their industries needed to seek markets abroad in order to achieve the necessary economies of scale in production. Indeed, historical evidence demonstrates, in general, an inverse relationship between trade orientation and economic size; among countries with similar levels of per capita income, the ratio of trade to income tends to be lower in countries with larger populations.

Countries such as China and India can rely less on foreign markets for their industrialization than did the first-tier NIEs in their earlier stages of industrialization.

This means that countries such as China and India can rely less on foreign markets for their industrialization than did the first-tier NIEs in their earlier stages of industrialization. Indeed, as discussed in the subsequent chapter, for China greater reliance on domestic sources of growth may prove to be a more viable strategy than maintaining the recent momentum in labour-intensive manufactured exports. Its skill mix and endowments are sufficiently well developed to allow rapid upgrading in a number of technology-intensive sectors to enable it to earn the foreign exchange needed for continued growth in economic activity. This is also true for India. Such a strategy would also provide greater space for smaller newcomers in labour-intensive manufactures.

A strengthening of regional economic ties could help this process along in East and South Asia and South America. Conventional economic thinking tends to dismiss regional arrangements as a second-best solution for meeting development goals, and as a potential stumbling-block on the road to a fully open and integrated multilateral system. However, this conclusion is based on a somewhat utopian view of the global economy. Where domestic firms still have weak technological and productive capacities and the global economic context is characterized by systemic biases and asymmetries, regional arrangements may well provide the most supportive environment in which to pursue national development strategies. The fact that many of the rapidly growing economies are in East Asia suggests that the regional dimension played an important role in their industrialization.

As described in detail in *TDR 1996*, the successful use of strategic trade and industrial policies, as well as various macroeconomic pressures originating in the region's more advanced economies, led to a pattern of regional division of labour, described as the "flying geese" model. As the leading economies in the region successfully shifted from resource-based and labour-intensive industries to increasingly sophisticated manufacturing activities, they provided space for the less developed countries to enter simpler manufacturing stages. Regional trade and investment flows played a central role in this process by helping to create markets and by the transfer of skills and technology to neighbouring countries (Rowthorn, 1996). This sustainable growth process needs to combine market forces with targeted industrial policies. The challenge now lies in the extension of this regional dynamic to include newly emerging countries such as China and India, as well as other less developed countries in South and East Asia. Although experiences with regional arrangements among developing countries elsewhere have proved less satisfactory, the question remains whether they could, nonetheless, emulate the kind of growth pattern that was established in East Asia.

Since regional economic arrangements imply close interdependence among a group of economies, there is the risk that problems in one country may be transmitted to its neighbours. Arguably, that danger has intensified in today's globalizing world. In fact, a number of changes in the regional pattern of integration during the 1990s do appear to have contributed to the instability which hit East Asia towards the end of the 1990s. With volatile capital flows fuelling a boom-bust cycle, a more fragile macroeconomic context has developed which is vulnerable to shifting investor sentiment. Thus a return to stable and rapid regional growth needs to be underpinned not only by policies directed at the upgrading of production and exports, but also, in view of the close links between trade and finance, by accompanying regional arrangements to ensure the stability of financial markets, including lending facilities and agreement on a sustainable pattern of exchange rates (*TDR 2001*, chap. V).

Finally, as argued in *TDR 1996*, avoiding potential pitfalls in formulating and implementing an export strategy requires constant monitoring of developments in markets for various manufactured products, projecting the possible evolution of global supply and demand conditions. This task can best be accomplished by an international agency such as UNCTAD. In this *TDR*, an attempt is made to identify the developments in world trade in manufactures over the past two decades, the extent of participation of developing countries in dynamic, high value-added products, and the degree of competition building up in labour-intensive manufactures. To help developing countries in the formulation of their trade strategies and to provide early warning signals, the analysis of dynamic products will need to be updated on a regular basis. It will also need to be extended to include information on and analysis of trends in the prices of labour-intensive manufactures, which now constitute the bulk of exports from developing countries. ■

Notes

1 For instance, in an earlier study, Cline (1982) showed that if all developing countries had experienced the same export/GDP ratios as the first-tier NIEs, their exports would have captured 61 per cent of the developed country market in 1976, compared to the actual 17 per cent. It was argued that the acceptable threshold level for import penetration ratio was in the order of 15 per cent, and consequently any attempt to go well beyond that would have been thwarted by protectionism.

2 These findings also show that the sharp expansion in the volume of the EU's imports of manufactures from developing countries more than offsets the deterioration in the NBTT, which has resulted in an improvement in the purchasing power of manufactured exports of developing countries or their income terms of trade.

3 The composition of the different groups is as follows: East and South-East Asia comprises the four NIEs (Hong Kong (China), the Republic of Korea, Singapore and Taiwan Province of China), the ASEAN-4 (Indonesia, Malaysia, the Philippines and Thailand), as well as Brunei and Macao (China). The group of LDCs comprises 37 low-income countries, of which 27 are in sub-Saharan Africa. The composition of the ACP group overlaps with the group of LDCs to a considerable extent. The group of Mediterranean countries comprises Algeria, Cyprus, Egypt, Israel, Jordan, Lebanon, Malta, Morocco, Tunisia, Turkey and the former Yugoslavia.

4 These new time series are the result of considerable effort to ensure that the indices reflect only price changes and are not affected by quality changes. However, the BLS has compiled these series only since 1990, and for a limited number of economies (Canada, the EU, Japan and the first-tier NIEs); import price series for manufactured goods from Latin America have been compiled since December 1997. To provide a realistic medium-term trend, it is necessary to extend the series backwards to 1981 in order to obtain a complete data set for the period 1981–1996. For details on the method used to calculate and adjust the price-index series, see Maizels (2000: 6–11 and 27–36).

5 The United States NBTT shows divergent trends vis-à-vis developing and developed countries; it rose significantly against developing countries in the first half of the 1980s but showed no distinct trend thereafter, whereas against the developed countries it was trendless in the first half of the 1980s, but rose significantly thereafter. Over the whole period, prices of the United States manufactured imports from developed countries (mainly automobiles and machinery) rose significantly faster than prices of imports from developing countries (mainly clothing), while prices of its manufactured exports to developed countries rose more slowly than prices of exports to developing countries. Maizels (2000: 17–21) shows that the price dispersion on any of the main manufactured products traded by the United States is much higher for its imports than for its exports; as he notes, this could indicate that price changes in exports are driven by domestic developments, such as growth rates in productivity and inflation rates, while price changes in imports are driven by international factors, such as changes in exchange rates, productivity and production costs across various national sources of supply.

6 This is not to say that labour employed in export sectors in developing countries is necessarily worse off than that employed in their non-trading sectors, but that increased competition among developing countries in markets for low-skill manufactures exerts a downward pressure on manufacturing wages and prices. For the evidence on the impact of trade liberalization and export drive on wages in developing countries, see UNCTAD (2001b).

7 Note that here concentration is measured in terms of shares of countries rather than firms, as is usually the case.

8 In the clothing sector the degree of concentration ranged between 527 and 1,027 in 1981, compared to a range between 528 and 637 in 1998. The respective index numbers for the selected products from the electronics industry ranged between 899 and 1,961 in 1980, and between 658 and 924 in 1998.

9 This classification follows Wood (1994). It is clear that equating the skill level of workers with their degree of formal education is inadequate because it ignores on-the-job learning and training. Moreover, cross-country comparisons of educational attainments ignore differences in the quality of formal education. However, comprehensive data that would take account of these aspects are not available.

10 The scope for substitution depends on the degree to which skills are sector-specific, i.e. the result of the experience accumulated "on the job". Where this is the case, moving from one sector to another implies that workers lose part of their skill and thus part of their earning capability.

11 For a discussion of these initiatives and their impact on market access for LDCs, see UNCTAD (2001c), and UNCTAD/Commonwealth Secretariat (2001).

12 Tariff peaks are tariffs that exceed a selected reference level. They are often defined as tariff lines exceeding 15 per cent at the 6-digit level of the Harmonized System, following OECD (1999).

13 Michalopoulos (1999) also notes the great variation in protection across developing countries. Balance-of-payments and fiscal considerations, rather than the desire to protect particular industries, appear to be the main reason why low-income countries maintain higher tariffs.

14 Tariff averages can be calculated using various weighting schemes. Simple tariff averages give equal weight to each tariff line. The relative importance of various tariff lines is better taken into account by tariff averages weighted according to import values, but they, nonetheless, have a downward bias, because imports of products that are subject to higher tariff rates will be lower than would otherwise be the case (i.e. an absolutely prohibitive tariff will have a zero weight). For these reasons, it is preferable to look at both simple and import-weighted averages.

15 The latter figures are from Michalopoulos (1999: 48).

16 Similar evidence is provided for the more aggregated Multilateral Trade Negotiations' industrial product categories in Bacchetta and Bora (2001).

17 It is difficult to judge the counterfactual (i.e. how much the trade of the members of these PTAs would have grown with non-members) in the absence of such arrangements. Yeats (1998) believes that there was trade diversion in MERCOSUR.

18 For a discussion of such dislocations due to the relocation of low-skill jobs to developing countries, see Feenstra and Hanson (2001).

19 For a recent synthesis of these policies and the debate over whether they are replicable under current global conditions and constraints, see UNCTAD (2002a).