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II. THE TRADE AND DEVELOPMENT LINKAGE

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The linkage between trade and development is more a matter of empirical observation rather than strict theory, and efforts to establish the quantitative linkage have been a matter of dispute.[1]

Modern growth theory is focused on the role of human and physical capital accumulation, and technical progress. Trade is seen as an instrument of capital accumulation or as a means of stimulating efficiency through better resource allocation and enhanced competition. However, formally, it is only in models characterized by non-diminishing returns to reproducible production factors (or learning-by-doing or endogenous technical change) that a link can emerge between trade policy and the steady-state growth of countries.[2]

At one level, trade and development are linked through the effect of trade policy on the level and pattern of domestic aggregate spending, and hence on the savings-investment mechanism.[3] Developing countries that have achieved a high and sustained economic growth and development record over the past 40 years have generally maintained high savings-investment ratios (often around 30 per cent of gross domestic product (GDP)), while those in which economic growth and development have languished, including the LDCs, have extremely low domestic savings ratios.[4]

Even if trade policy cannot by itself affect the domestic savings rate, it can be used to address a temporary disequilibrium in a country's balance of payments resulting from temporary external factors, such as variations in commodity prices or abrupt movement of foreign capital. This approach may provide a short-term solution while making the necessary

domestic adjustment (reducing domestic consumption or investment), which normally takes time to work itself through the system.

Trade policy can create an environment that favours investment. On the one hand, this occurs through the creation of a more predictable and secure trade and investment regime, an issue that links trade policy and good governance. On the other hand, trade policy should permit investment to operate as productively as possible, that is through its effects on resource allocation. Trade policy determines the allocation of scarce resources within the domestic economy, generating efficiency gains that derive from intersectoral shifts of production in favour of those production activities that use more intensively the relatively more abundant factors of production.

Apart from gains in allocative efficiency, increases in total factor productivity may also be generated by increased competition and the emergence of new forms of international trade. In principle, trade liberalization should increase competition in the domestic markets, acting as a complement to competition policy.[5] But this also depends on the contestability of the provision of services, otherwise the gains from liberalization may be captured by enterprises with market power in the distribution sector. In either case, more liberal trade policies tend to lower costs due to the elimination of x-inefficiencies (the elimination of dead-weight losses), and increase competitive pressures requiring new investments and technological advancement. For many observers, these sources of efficiency gains are dominant under current conditions of international trade and more important than the gains from static inter-sectoral shifts.[6]

There are several important qualifications to the assumption that freer trade necessarily produces the optimal results for development. For example, the endogenous growth literature generally presumes that openness favours growth at the world level, because new products and ideas become more easily available, and this turns into faster growth rates of productivity. However, as pointed out in Grossman and Helpman (1991), from a strictly theoretical viewpoint, the effects of removing trade restrictions on a particular economy are to be considered ambiguous. Results depend in particular on the initial level of development of the country considered and on its composition of factor endowments.[7] In fact, the comparative advantages and the specialization patterns of countries are not static, shifting with movements in technology and factor endowments at home and abroad. Moreover, such shifts are to some extent under the control of economic policy, since an appropriate policy environment may favour investments in sectors characterized by higher growth rates and bigger economic rents. In general, in defining optimal trade policies account needs to be taken of possible externalities associated with certain types of production (e.g. in high technology sectors), and other possible market failures (e.g. market power).

A. Trade patterns

World export values have grown constantly in the last 50 years, at an average annual rate of 10 per cent. At the end of the 1990s, the value of world total trade (at current prices) was about 50 times that in the 1950s. Trade has become more important for most economies relative to their GDP, as evidenced by the increased values of trade openness (figure 1).[8] Figure 1 shows that over time there is an upward trend in the trade/GDP ratio for the world as a whole and for all developing country groups. The fastest growth in openness has occurred in East Asia and Pacific, while the openness indicator of sub-Saharan Africa – which was the highest during the 1960s and the 1970s among developing country groups – shows a downturn in the 1980s, the time of the international debt crisis.

Figure 1. Trade openness, by major country groupings
(Total trade as a percentage of GDP, base 1970 = 1)
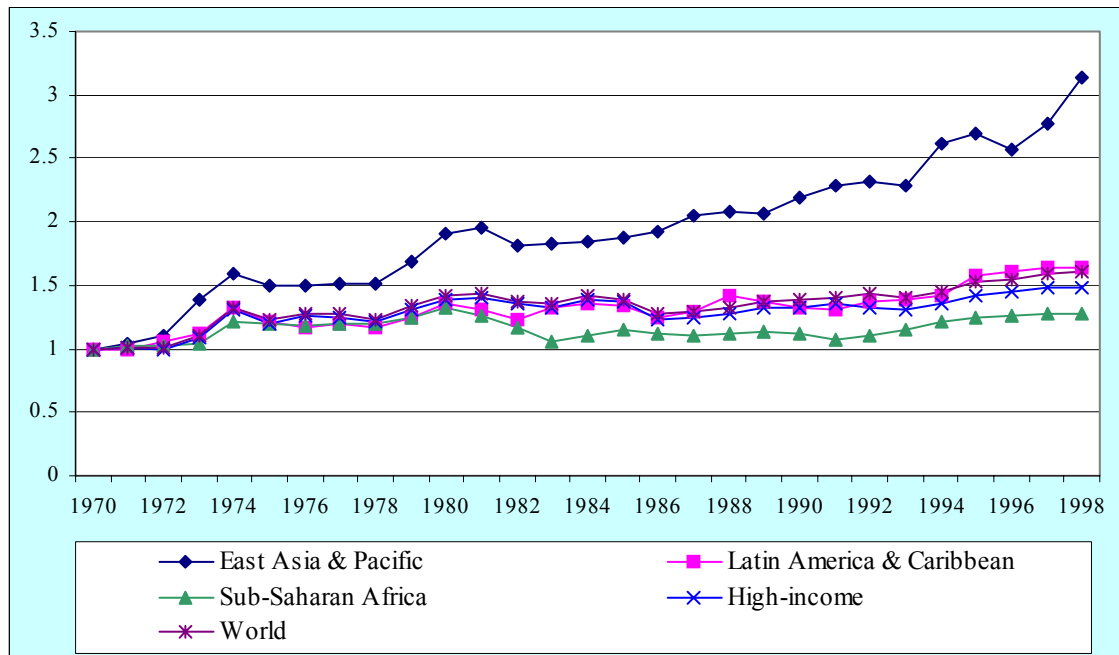
Source: UNCTAD computations based on World Bank, *World Development Indicators, 2001*.

Overall, the growth in world trade over the past two decades coincided with a greater role for developing countries both as exporters and importers. In the mid-1980s, the share of developing countries in world merchandise trade was less than 20 per cent. At the end of the 1990s that share reached almost 30 per cent.

However, not all developing countries followed this overall trend. As shown in figure 2, the increased share of developing countries' exports in world trade is mainly due to the trade performance of East Asian countries, while the share of African countries' exports in world exports declined from around 5 per cent in the 1950s to less than 2 per cent during

the 1990s. A similar downward trend is visible in the share of Latin American and Caribbean countries, whose share has almost halved compared with that in the early 1960s, despite a moderate recovery in the 1990s. A large part of this increased participation of developing countries in world trade is accounted for by the increase in trade among developing countries. In 1980 the share of exports from developing countries sold to markets of other developing countries was about 25 per cent; in 1999, this share was above 40 per cent.

Figure 2. The evolution of various developing countries' exports
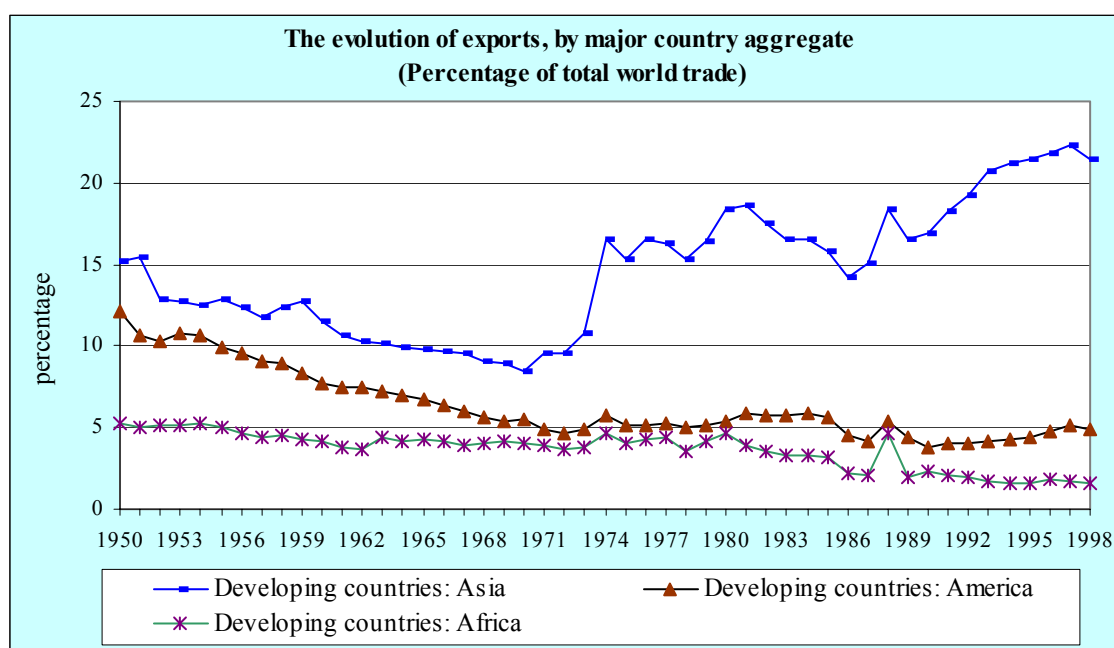
Source: UNCTAD computations on UN COMTRADE data.

During the past decades, the sectoral structure of world trade changed significantly (table 1). In the 1960s and 1970s the share of manufactured products in developing countries' total exports remained remarkably small compared with that of developed countries (in 1980 this was less than 20 per cent for the former group and above 70 per cent for the latter). Starting in the 1980s, however, the share of manufactured exports from developing countries increased steadily, reaching values around 70 per cent at the end of the 1990s.

In terms of agricultural export shares, both developed and developing countries show a similar downward trend over time, and the gap between developing countries and the world average has been narrowing (figure 3).

Despite this overall trend, there are notable differences among agricultural sub-sectors. One relevant aspect of agricultural trade is the increasing importance of processed agricultural products in the total value of international trade, as opposed to trade in agricultural raw products. Food manufacturing (including beverages and tobacco), as well as the

**Table 1. The evolution of world export structure, by major country groups
and products (1980-1997)**

Exporter	Product groups	1980	1985	1990	1992	1993	1994	1995	1996	1997
Developed countries	Manufactures	70,9	73,5	78	78,7	78,5	79,2	78,8	79,1	79,7
	Food products	11,3	9,6	8,9	9,3	9,1	8,9	8,6	8,8	8,2
	Agricultural raw materials	3,6	3,1	2,8	2,5	2,4	2,6	2,6	2,3	2,2
Developing countries	Manufactures	19,5	35	53,6	60,5	63,5	65,5	66,5	66	67
	Food products	11,8	13,8	11,6	10,6	10,1	10,3	9,8	9,7	9,8
	Agricultural raw materials	3,8	3,3	3,1	2,9	2,7	2,9	3	2,8	2,6

Source: UNCTAD computations on UN COMTRADE statistics.
Food items comprise products in categories SITC sections 0 (food and live animals), 1 (beverages and tobacco), and 4 (animal and vegetable oils and fats), and SITC division 22 (oil seeds, oil nuts, and oil kernels). Agricultural raw materials contain products in SITC section 2 (crude materials except fuels) excluding divisions 22, 27 (crude fertilizers and minerals excluding coal, petroleum, and precious stones), and 28 (metalliferous ores and scrap).

agricultural sector in general, represents for many developing countries the most important manufacturing activity. The recent export growth of some developing countries is explained to a large extent by "new" processed goods that were not very important up until the 1970s.[9] On the other hand, shares of "traditional" items such as meat products, sugar and molasses, animal feeds, tobacco products and vegetable oils have either fallen or fluctuated over time.

**Figure 3. The evolution of agricultural trade shares in total trade,
by major country groupings**
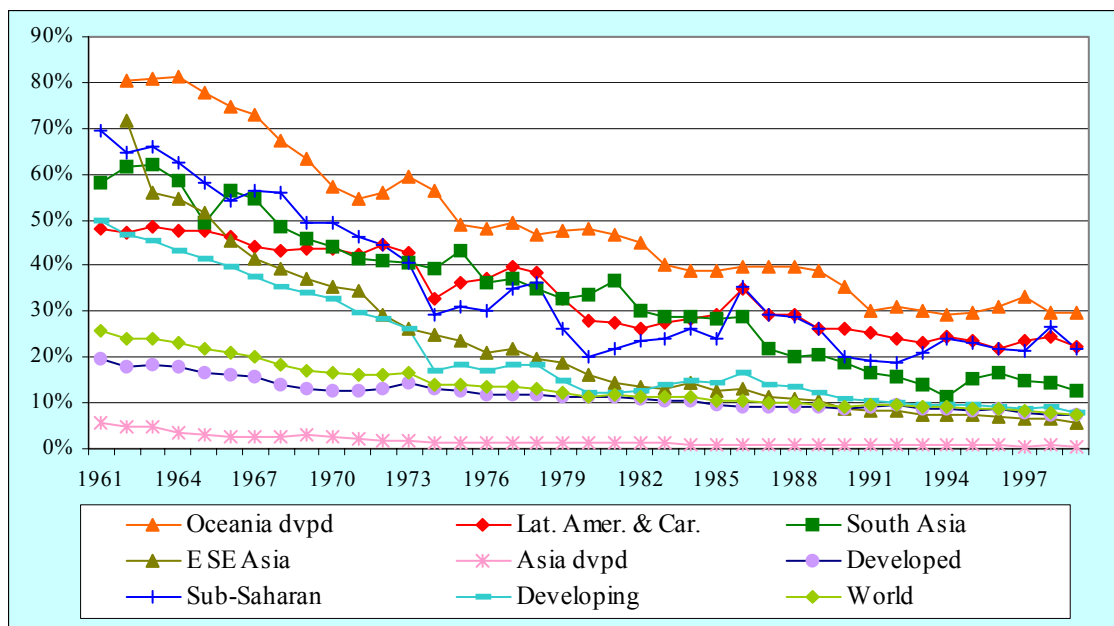
Source: UNCTAD computations on UN COMTRADE data.

**Figure 4. RCA indexes, 1998-2000, by country groupings and sectors**
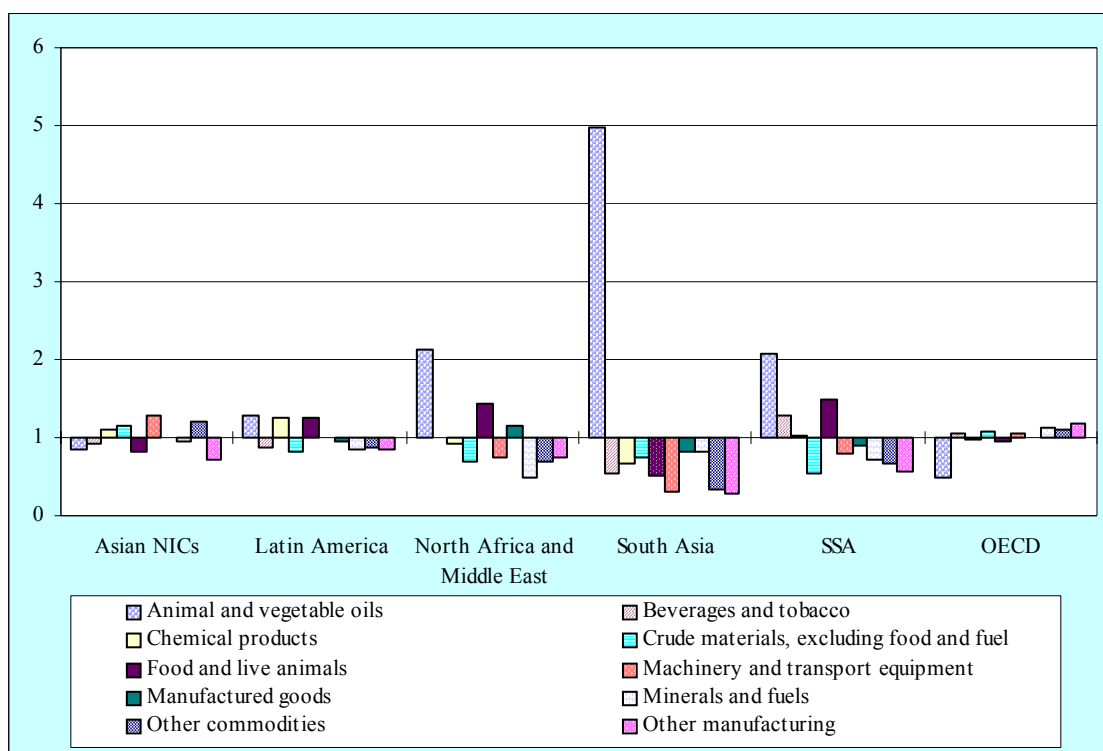
Source: UNCTAD computations on UN COMTRADE data.

The definition of the index is: $RCA_{ij} = (X_{ij} / \Sigma_j X_{ij})/((\Sigma_i(X_{ij} /\Sigma_j X_{ij})/N)$. This index takes values between 0 and 1. A value less than 1 characterizes sectors in which a country is relatively less specialized with respect to the world economy. On the other hand, a value of the index greater than 1 denotes sectors in which a country is relatively more specialized.

The world patterns of trade specialization can be described by plotting revealed comparative advantage indexes (RCAs) across sectors and regions (figure 4).[10] In agricultural products (animal and vegetable oils, food products, live animals) most developing country groups show RCA indexes higher than one (a notable exception being South Asia), while OECD countries appear to be less specialized in agriculture and have a sectoral pattern of exports more in line with that of the world average.

In figures 5 and 6, respectively, the standard deviation and the median of the RCAs of different world regions are compared for different decades. A greater value for the standard deviation of a given region suggests that RCA indexes are more dispersed across sectors.[11] Figure 5 shows a reduced dispersion in RCA values for most country groups, which suggests that the export structure in these regions has become more diversified and in line with that of the world average.[12] The results for sub-Saharan Africa in particular, Japan and Oceania are more ambivalent.

**Figure 5. Trade specialization: Standard deviation of RCA indexes,
1970s - 1990s**
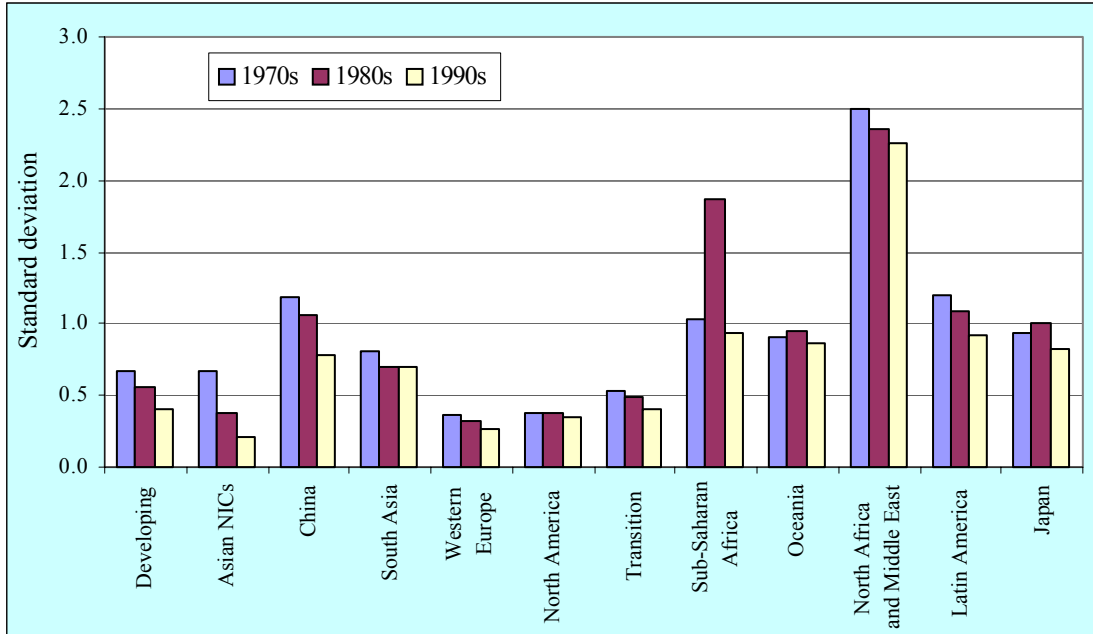
Source: UNCTAD computations on UN COMTRADE data.

**Figure 6. Trade specialization: Evolution of RCA index median,
1970s - 1990s**
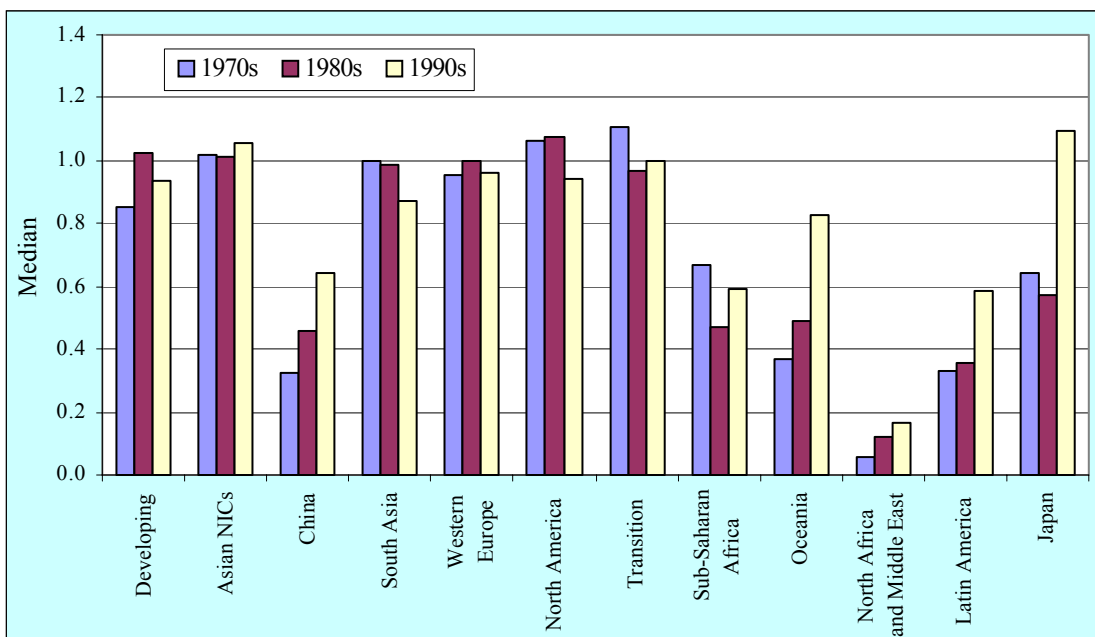
Source: UNCTAD computations on UN COMTRADE data.

Concerning the absolute values of RCAs, the RCA median has steadily increased over recent decades for Japan, Oceania, Latin America and China, which suggests that these regions have acquired a comparative advantage in an increasing number of sectors (figure 6). In the same period, for some regions (Western Europe and North America) the RCA median has been relatively high (around unity), whereas for some developing regions (Africa and Latin America) it has been quite low (below 0.6).

In summary, the evidence based on RCAs shows that developing countries rely on a narrower export base compared with that of industrialized countries and that this export base is to a large extent dependent on agricultural products. Moreover, while a number of Asian countries and few a Latin American countries have been able to diversify their export base, the specialization pattern of African countries has been persistently narrow over time.

B. Practical lessons

What has been the practical experience of developing countries with trade liberalization and development? Today, most economists accept that trade liberalization makes a positive contribution to economic growth (the single most important trade and development issue), at least in the medium to long term.[13] However, this relationship between openness and growth is essentially an empirical matter – as discussed earlier, economic theory provides no robust formal linkage. In the past decade there has been abundant empirical work aimed at assessing the effect of trade openness on economic growth.[14] Most of these papers find a positive cross-country relationship between trade openness and growth. The empirical debate on openness and growth, however, is not yet closed, since, as evidenced in Rodrik and Rodriguez (1999), a number of results that have been produced are not immune from criticism, mostly related to data limitations.

There is also recognition that the short-term effects of liberalization need not be positive. A recent survey reaches the conclusion that "inasmuch as openness to international trade (in low-income countries) and limited government intervention (everywhere) do not correlate with growth" (Mosley, 2000) it is necessary to widen the basic IMF prescription for growth, i.e. "openness toward international trade, macroeconomic stability and limited government intervention in the economy" so as to include measures aimed at correcting endogenous distortions in income distribution and in the capital market.[15]

Most of the observers that directed criticism at the "openness and growth" conventional wisdom do not deny that trade liberalization is beneficial in the long term, but they believe that the results also point up the importance of governance (see, for example, Rodrik, 2001).

There are several reasons for the lingering uncertainty about the beneficial effects of trade liberalization on economic growth, mainly because of uncertainties in the relevant data. It is difficult to obtain consistent, satisfactory time-series data on the use of trade barriers and other trade interventions. There are important divergences between MFN bound

Table 2. Bound and applied tariffs on industrial products (simple averages)

Import markets	End of implementation period[a]	Share of bound tariffs	Simple MFN average bound	Simple average applied	Year	Difference between bound and applied tariffs
NORTH AMERICA						
Canada	2000	99.6	5.2	4.8	1998	0.4
United States	2000	100	3.9	4.3	1999	-0.3
LATIN AMERICA						
Argentina	2005	100	31.0	13.7	1998	17.3
Chile	2005	100	25.0	10.9	1997	14.1
Colombia	2005	100	35.5	11.2	1998	24.3
Costa Rica	2005	100	44.6	6.4	1998	38.2
Mexico	2005	100	34.8	12.6	1998	22.2
Peru	2005	100	30.0	13.0	1998	17.0
WESTERN EUROPE						
European Communities[b]	2000	100	4.1	5.0	1998	-0.9
Norway	2000	100	3.4	3.3	1998	0.1
Turkey	2000	36.3	42.6	7.5	1996	35.1
EASTERN EUROPE						
Czech Republic	2000	100	4.3	4.8	1998	-0.5
Hungary	2000	95.4	7.4	9.0		-1.6
Romania	2000	100	30.1			
Slovakia	2000	100	4.3	4.9	1998	-0.6
ASIA						
Australia	2000	95.9	14.2	5.8	1998	8.4
Hong Kong (China)	2005	23.5	0	0	1998	0
India	2005	61.6	58.7			
Japan	2000	99.2	3.5	4.2	1998	-0.7
Republic of Korea	2005	90.4	11.7	7.9	1998	3.8
Macao (China)	2005	9.9	0	0		0
Philippines	2005	58.6	26.1	9.5	1998	16.6
Singapore	2005	65.5	4.6	0		4.6
AFRICA						
Cameroon	2005	0.1	17.6	17.6	1999	0
Chad	2005	0.4	17.6	17.6	1999	0
Gabon	2005	100	15.5	17.6	1999	-2.1
Senegal	2005	32.3	13.8			
South Africa	2005	98.1	17.7			
Tunisia	2005	46.3	34.0			
Zimbabwe	2005	8.8	11.3			

Source: Bacchetta and Bora (2001).

[a] Members may have scheduled longer implementation periods for a certain number of tariff lines. One example is textiles and clothing products, where several WTO Members have until 2004 to implement their tariff reductions.
[b] EC 12 for bound duties; EC 15 for applied duties.

and applied rates (table 2). MFN tariffs often coexist with regional or other preference schemes and complex rules of origin. Even tariffs are sometimes applied as specific or mixed rates or tariff rate quotas, whose *ad valorem* or percentage equivalents can be difficult to estimate. Tariff duties are sometimes waived under a variety of national schemes. Non-tariff barriers (NTBs) are inherently complex, they have multiple effects and their incidence varies across time and across trade partners (Laird, 1996). Their use has certainly been declining, but they remain particularly important in agriculture, textiles and clothing and services. The measurement problem is compounded when NTBs and tariffs are used in conjunction ("stacking").

In addition, there have been complex and interlinked policy changes over the last 10-15 years. Tariffs have certainly declined, as have tariff revenues (Drabek and Laird, 1998). The rationalization and simplification of tariff regimes have often gone together with reduction in the use of NTBs (see table 3 on OECD countries).[16] These changes in the use of trade instruments have often also been accompanied by institutional changes, participation in regional agreements and increasing commitments under the WTO. On the whole, there has been a consistent pattern of liberalization, greater openness, considerable deregulation and improved governance. There have been some, but relatively few, instances of rolling back these reforms in recent crises.

In essence, openness and governance have gone hand in hand and it is difficult to separate the relative importance of these trends. Moreover, it is to be expected that the initial shift from a highly protected regime or closed economy would have a greater impact than liberalizing from an existing moderate trade regime.

Thus, while the longer-term benefits of liberalization may be less in dispute than in the past, there are significant short-term risks and no clear-cut formula that guarantees the avoidance of such risks. Faster-moving reforms may have higher risks but bring faster benefits. More measured reforms lessen the risks but take longer to produce the benefits. In any event, the risk of adverse social consequences may need to be addressed by social safety nets, retraining and structural adjustment programmes to facilitate change and minimize social disruption.

Table 3. Import coverage of major NTBs in OECD countries

(A) 1989

Indicator	Australia	EU	Iceland	Japan	New Zealand	Norway	Mexico	Turkey	Switzerland	USA
All NTBs	3.4	26.6	n.a.	13.1	14.1	26.6	2.0	0.1	12.9	25.5
Core NTBs	3.4	25.2	n.a.	12.5	14.1	25.2	2.0	0.0	3.3	25.5
Quantitative restrictions (QRs)	0.5	19.5	n.a.	11.7	13.9	19.5	1.9	0.0	1.7	20.4
Export restraints	0.0	15.5	n.a.	0.3	0.0	15.5	0.0	0.0	0.0	19.5
Non-auto licensing	0.5	4.4	n.a.	8.9	0.0	4.3	1.8	0.0	0.4	0.0
Other QRs	0.0	0.2	n.a.	2.8	13.9	0.2	0.2	0.0	1.4	6.6
Price controls (PCMs)	2.9	12.4	n.a.	0.8	0.3	12.4	0.1	0.0	1.6	17.8
Variable levies	0.0	6.3	n.a.	0.8	0.0	6.3	0.0	0.0	1.5	0.1
AD/CVs & Voluntary export price restraints (VEPRs)	2.9	2.6	n.a.	0.0	0.3	2.6	0.1	0.0	0.0	17.8
Other PCMs	0.0	4.3	n.a.	0.0	0.0	4.3	0.0	0.0	0.1	0.0

(B) 1996

Indicator	Australia	EU	Iceland	Japan	New Zealand	Norway	Mexico	Turkey	Switzerland	USA
All NTBs	0.7	19.1	3.6	10.7	0.8	4.3	14.1	0.4	7.6	16.8
Core NTBs	0.7	15.1	1.5	10.0	0.8	2.6	14.1	0.4	0.2	16.7
Quantitative restrictions (QRs)	0.0	13.1	1.5	9.2	0.0	2.6	1.0	0.2	0.2	10.9
Export restraints	0.0	11.4	0.0	0.0	0.0	1.2	0.0	0.0	0.0	10.8
Non-auto licensing	0.0	1.5	1.4	8.6	0.0	2.6	1.0	0.2	0.0	0.0
Other QRs	0.0	0.2	0.1	0.6	0.0	0.0	0.0	0.0	0.2	0.6
Price controls (PCMs)	0.7	3.2	0.0	0.7	0.8	0.0	13.1	0.3	0.0	7.6
Variable levies	0.0	1.4	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.1
AD/CVs & VEPRs	0.4	0.9	0.0	0.0	0.8	0.0	13.1	0.3	0.0	7.6
Other PCMs	0.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1

Source: OECD (1997).
Notes: "Core" NTBs are QRs and PCMs shown in the table, imposed "with the specific intent of modifying or restricting international trade" (OECD, 1997).
   Non-core NTBs include automatic licensing and monitoring measures. See OECD (1997) for further details of methodology.

Notes:

[1] For a discussion, see for instance Drabek and Laird (2001) and Rodriguez and Rodrik (1999).

[2] Static models can yield answers concerning the effects of trade policy on the level of output, but not on the growth rate. Conversely, in standard diminishing returns to scale growth models trade policy can affect output growth only transitionally, without affecting the long-run growth path.

[3] A country's national savings-investment imbalance is identical to the difference between exports and imports of goods and services.

[4] These countries have had to rely heavily on ODA financing – see Report of the Secretary-General to the Preparatory Committee for the International Conference on Financing for Development, United Nations (A/AC.257/12 of January 2001).

[5] For more discussion see Graham (2001). Graham notes: "Current thinking has evolved away from seeing gains from either trade liberalization or from moving from less to more effective competition within markets as 'one-shot' (i.e., static) in nature. The changed thinking is based on the recognition that the main driver of efficiency gains in the medium and long run is not the reallocation of resources in a static sense but rather the enhancement of total factor productivity."

[6] Smith (2000), for example, stresses that skill differentials within countries are the critical determinant of trade flows. He argues that there is no longer much room for traditional trade policy which primarily targets intersectoral resource allocations.

[7] Grossman and Helpman (1991) and Matsuyama (1992) provide examples of economies that by opening up to trade experience a reduction in long-run growth associated with an increased specialization in "traditional" sectors lacking the scale economies (static or dynamic) that are key to growth.

[8] The ratio of exports plus imports to gross national product is a widely used indicator of openness in international trade. Some caveats are to be mentioned concerning the interpretation of this indicator. First, it does not account for differences (across time or countries) in the ratio between tradable and non-tradable output. Second, in cross-country comparisons, it is subject to the influence of a number of factors, above all country size.

[9] The most prominent of these fast-growing food exports is processed fish, whose share in total processed food exports from developing countries increased from 6.7 per cent in 1970 to 28.4 per cent in 1994. There has also been an increase in the share of preserved fruit in processed food over time, though not as spectacular as in the case of processed fish.

[10] The revealed comparative advantage index of country h in sector i is obtained as the ratio of the share of export of sector i over total export of country h over the same share computed for the whole world. A value above (below) unity indicates that country h is more (less) specialized than

its average trade partner in the production of good i.

[11] Since one of the properties of the normalized RCA index is that its average across sectors is equal to one, it follows implicitly that higher values for standard deviation reflect higher values of specialization in fewer sectors.

[12] Similar conclusions are drawn by a number of authors analysing the trade pattern of different countries and sectoral aggregations. See for instance Balassa (1977), Amendola, Guerrieri and Padoan (1992), and Proudman and Redding (1998a, b).

[13] See, for example, Sachs and Warner (1995).

[14] See, e.g., Dollar (1992), Sachs and Warner (1995), Edwards (1992, 1998), Ben-David (1993).

[15] It may be noted that in the 1990s Chile adopted more socially oriented spending programmes in health and education without any slackening of the real growth rate of some 9 per cent a year (up to the Brazilian crisis of 1998). WTO (1997).

[16] A similar pattern of reduced use of NTBs by developing countries in this period has been shown by Michalopoulos (1999), although directly comparable data are not available.