DESA Working Paper No. 24
ST/ESA/2006/DWP/24

June 2006

The Dual Divergence: Growth Successes and Collapses in the Developing World since 1980

José Antonio Ocampo and María Angela Parra

Abstract

This paper argues that developing countries' growth successes and collapses tend to cluster in specific time periods—and that only the existence of a global development cycle can explain this. The cycle reflects the external factors that affect all, or large clusters of developing countries, and thus constrain their growth possibilities. Nonetheless, country-specific factors—particularly patterns of specialization—play a significant role in determining growth dynamics. From this perspective, the paper shows a very large difference between the economic growth of developing countries diversifying into higher technology manufacturing exports and those experiencing success in natural resource intensive sectors.

JEL Classification: O1-Economic development, O14-Industrialization; manufacturing and service industries; choice of technology, F1-Trade, F4- Macroeconomic aspects of international trade and finance, F43-Economic growth of open economies.

Keywords: economic growth, divergence, external factors, global development cycle, patterns of specialization, technological intensity of exports.

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The Dual Divergence: Growth Successes and Collapses in the Developing World since 1980

José Antonio Ocampo and María Angela Parra[1]

Cross-country econometrics has been the preferred tool of empirical growth analysis over the past 20 years. This literature has tended to focus the analysis on long time periods, ignoring the instability and volatility of growth patterns in developing countries. Because shocks play a central role in explaining variations in growth patterns in the developing world (Easterly and others, 1993), the meaning of the statistical coefficient estimated for long periods of time is unclear. In this sense, the use of panel data econometrics for shorter periods may be more appropriate, although, for many reasons, not ideal (Pritchett, 2000). Another route is to examine factors that determine growth spurts (accelerations) and collapses. Country-specific historical analysis is a third route (see, for example, Rodrik, 2003, among others), but the comparability of such analyses is a significant limitation in this regard.

This paper takes the second route, focusing on growth surges and collapses in developing countries and their relation to common external factors that affect the economic performance of these countries. It also looks at the role of patterns of specialization in explaining relative growth performance in recent decades. The first section presents a survey of the still limited empirical literature on growth spurts and collapses. The second section looks at the incidence of accelerations and collapses of growth in developing countries since 1950 and identifies a "global development cycle" that circumscribes developing economies' growth possibilities. The third focuses on the role in this context of specialization patterns and production development strategies. The fourth presents some conclusions. Some of the facts that are mentioned are well known, yet, curiously enough, have been generally disregarded in the growth literature.

Survey of literature on growth spurts and collapses

In one of the best known studies on economic growth instability in the developing world Easterly and others (1993) show that a large part of the variance of growth rates of developing countries, even in periods as long as a decade, can be directly explained by shocks: in the terms of trade, in debt crises and sharp changes in net external transfers, and in the form of wars. Furthermore, shocks have an indirect influence on growth by inducing policy changes. In turn, Easterly (2001) underscores the greater vulnerability of poor countries to natural disasters, compared to middle- and high-income countries. The greater sensitivity of low-income countries—particularly Sub-Saharan African countries—to these problems, as well as to civil wars, explains the greater dispersion of growth rates among them.

Looking at discontinuities in the growth experience is important for several reasons. First, the hypothetical determinants of economic growth may have non-linear effects, which imply that the same policy may have different effects in different countries and time periods. Non-linear interactions as well as (positive or negative) feedbacks are involved, for example, in the interaction between human capital and economic

1 The authors are very grateful to Ricardo Ffrench-Davis, Stephany Griffith-Jones, Daniel Heymann, Jorge Katz, Jomo Kwame Sundaram, Rafael Lopez Monti, José Luis Machinea, Stefania Piffanelli, Jaime Ros, Verónica Silva and Lance Taylor for their comments and suggestions, as well as to participants in the Seminar held at ECLAC on September 1-2, 2005. The usual disclaimers apply.

development (Ranis, Stewart and Ramirez, 2000).[2] As a result of non-linearities and the inconclusiveness of existing econometric results,[3] it may be impossible to draw policy implications from cross-country econometrics (Brock and Durlauf, 2001; Easterly, 2005; Rodríguez, 2006; Rodrik, 2005).

The second reason is that in economies experiencing substantial shocks, it may be impossible to isolate long-term trends from observable short-term trajectories. The major explanation for this is the path dependence generated by dynamic economies of scale: the close association between technological learning and production experience (i.e. "learning by doing" in a broad sense), as well as similar processes related to the development of marketing networks and the growth of firms' reputation (goodwill). This means that both negative shocks (an external crisis, a natural disaster, or a war) and positive shocks (the discovery of new natural resources) may have long-term implications.[4] A related issue is that the formation of expectations in economies facing recurrent shocks necessarily involves a learning process (Heymann, 2000).

The origins of shocks are obviously important in this regard. Given the emphasis of the existing growth literature on the *domestic* factors that determine the growth performance of developing countries, the role of *external* shocks affecting performance generally has been downplayed or even ignored in cross-country econometrics. In contrast, external factors have been the focus of the structuralist tradition, with its emphasis on the asymmetries that characterize the functioning of the world economy (Ocampo and Martin, 2003). As we will see, the role of external factors is critical, for major breaks in the growth process in the developing world tend to cluster around specific time periods, indicating that developing countries' economies tend to follow a common cycle, with major breaks clearly associated with the world economy.

The third reason why discontinuities are important is institutional in character. Although all forms of institution-building follow an evolutionary process, this feature is particularly important in *State* institution-building, again due to the "learning" processes involved. An interruption in the process of State building caused by a major economic crisis may thus have long-term implications, as a cursory look at the problems of Latin America following the "lost decade" indicates. The mix of an economic crisis with civil conflict may be particularly problematic, as the experience of several Sub-Saharan African countries over the past quarter century shows. In turn, major political discontinuities, such as revolutions (capitalist as well as socialist) can unleash an institutional restructuring that takes time to mature and may have unexpected twists. The experience of Central and Eastern Europe is the most relevant recent story in this regard. A major implication of this analysis is that, even if a major structural reform eventually has positive long-term effects, it also has transitional costs that may swamp its favourable impacts for a long time. In terms of the debates of the 1980s, this implies that "big bangs" are much less attractive than was believed during the period of structural reforms. Nonetheless, the discussion below will concentrate on economic issues, largely leaving aside these institutional dimensions.

Finally, in terms of the evolution of economic structures, long-term growth should be understood as the result of sequential sector-specific growth spurts, of their intensity and of the domestic linkages that they

2 See the analysis of the variable effects of education in different countries and time periods in Azariadis and Drazen (1990).

3 Indeed, the voluminous literature on cross-country econometrics has identified nearly 150 variables that have statistically significant effects on growth (Durlauf, Johnson and Temple, 2005). Because these variables do not necessarily exclude each other, with that technique alone it is impossible to know what priority should be given to each one of them (Brock and Durlauf, 2001).

4 See, for instance, Easterly (2001: ch. 10), or the analysis of "Dutch disease" by Krugman (1990: ch. 7), and van Wijnbergen (1984).

generate. The noticeable discontinuities that characterize the evolution of production structures and specialization patterns imply that these factors may be crucial to understanding growth dynamics. Cross-country econometrics has failed to give adequate attention to this issue, emphasized in the structuralist tradition (see, for example, Amsden, 2001; Lall, 2001; Palma, 2004). The Kaldorian links running from growth to productivity, associated with the presence of underutilized resources during the growth process, have also been disregarded, as well as the links between productivity convergence, domestic production linkages and external balances (Ocampo, 2005a; Rada and Taylor, 2004; Cimoli and Correa, 2005).

Several attempts have been made in recent years to understand the role of discontinuities in the growth process. Hausmann, Pritchett and Rodrik (2004) explore the determinants of episodes of economic growth acceleration since the 1950s. According to their results, accelerations are associated with increases in investment and trade, as well as with real exchange rate depreciation. Accelerations also appear to be linked to changes in political regimes. Positive terms of trade shocks have positive short-term effects, but they are not a significant predictor of sustained accelerations. On the contrary, standard economic reform measures play no role in explaining growth accelerations, although they can help to explain whether or not growth is sustained. The major conclusion of that paper, however, is that most of the variables used in mainstream growth analyses do not seem to play an important role as determinants of growth spurts and, in this sense, growth spurts are highly unpredictable.

Ros (2005), in contrast, considers the factors determining growth collapses. He finds three factors that affect the incidence of such episodes. The first is size: small economies are more likely to face collapses. The second is the pattern of specialization: dependence on raw material exports—particularly mineral exports—is associated with the incidence of reductions in per capita income. The third is income distribution: more unequal societies are likely to face growth collapses. According to Ros, political-economy issues are involved in the latter two links, whereas vulnerability to shocks clearly shows in the first two.

Reddy and Minoui (2005) examine a similar phenomenon: namely, real-income stagnation, which they define as negligible or negative per capita real-income growth for a significant uninterrupted sequence of years. They find that countries that suffered spells of real income stagnation were more likely to be poor, dependent on primary commodity exports, conflict ridden, and located in Latin America or Sub-Saharan Africa. A majority of landlocked developing countries also tend to be more likely to face long-term stagnation. Stagnation is also very likely to persist over time: countries afflicted with stagnation in the 1960s had a 75 per cent likelihood of being afflicted by stagnation in the 1990s as well.

Jones and Olken (2005) claim that changes in physical capital accumulation are not important in explaining growth accelerations and that, at best, they explain only a quarter of the magnitude of growth collapses. Both events instead reflect changes in productivity. Structural breaks are also associated with accelerations or decelerations in the allocation of labour to manufacturing, particularly to advanced manufacturing. Upturns are associated, in turn, with the evolution of trade shares, whereas inflation plays some role in downturns. The authors find that changes in productivity are the major determinant of both growth accelerations and collapses, but they fail to explain what determines major productivity shifts.

"Explaining" differences in growth rates as the result of differences in productivity growth, as do Jones and Olken (2005) and a voluminous literature, is however questionable, on at least two grounds. First, it ignores the short-term and perhaps even the medium-term Keynesian effects of changes in capacity

utilization on productivity, which will bias analysis against the effects of capital accumulation.[5] Second, it ignores long-term Kaldorian growth-productivity dynamics, according to which strong positive and negative productivity trends are associated with the more or less intensive utilization of *existing* factors of production: variable *under*employment of physical capital and of the labour force, including human capital; and variable underutilization of natural resources; and existing infrastructure. These Kaldorian links, recently brought back to the debate by Ocampo (2005a), Rada (2005) and Rada and Taylor (2004) imply that productivity improvements are largely the *result* of economic growth rather than an exogenous determinant of growth (as in the neoclassical development literature). More generally, to the extent that these Kaldorian links are valid, growth and productivity must be explained simultaneously.

The global development cycle

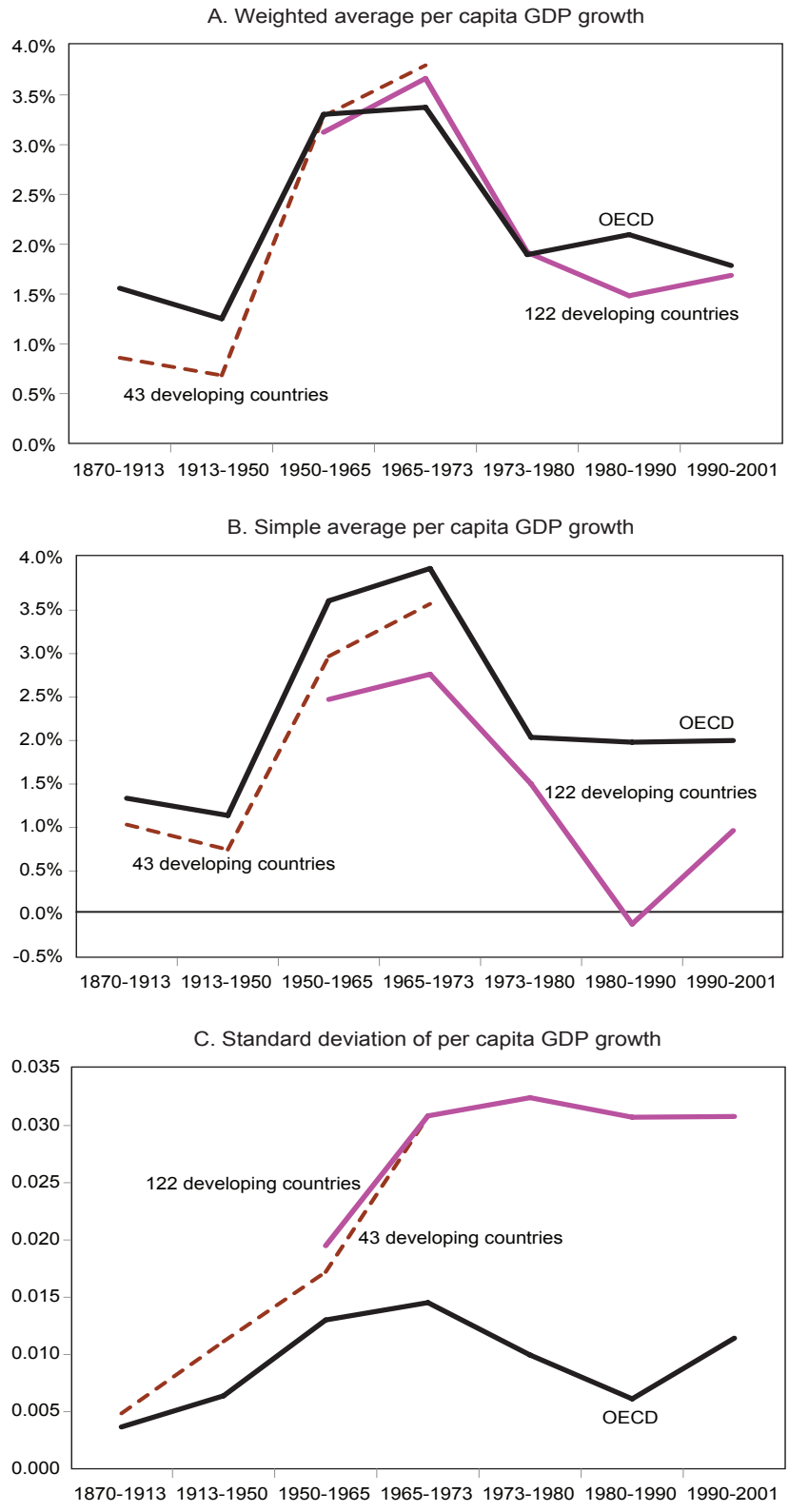
The widening income gap between different regions and countries has been a feature of the world economy for the past two centuries (see Figure 1, and Maddison, 1995 and 2001). The only exception to this trend is the period 1965-1973, in which the international per capita GDP gap decreased slightly (as we will point out below, the mid-2000s may be the beginning of another phase of this type, but it is too soon to say whether this reflects a longer-term trend). The story of the developing countries is thus one of "divergence, big time" vis-à-vis the industrial world (Pritchett, 1997), with the late phase of the "golden age" the only exception so far in history. This is also the conclusion of the analysis of the effects of inter-country inequality in world income distribution (Bourguignon and Morrison, 2002); growing divergence among countries has also been a major contributor to the growing inequality of world income distribution over the past quarter century, if we isolate the effects of the rapid growth of China and, to a lesser extent, India (Berry and Serieux, 2004).

History has also shown considerable divergence *among* developing countries, particularly since the mid-1960s (Figure 1.C). Part of this divergence has been the result of several success stories ("miracles") at different times in various parts of the developing world (China and India being the most recent ones). There are, however, very few instances of "peripheral" countries that have joined the industrial "centre" (Japan being the notable exception in this regard, perhaps with some of the "first-tier" Asian newly industrialized countries, or NICs). This implies that "miracles" have been more commonly followed by either stagnation at middle- or even low-income levels (a phenomenon that can be called "truncated convergence") or by outright collapses.

This brief overview of historical trends helps to underscore the basic "stylized fact" about the post-war development experience which serves as the starting point of this paper: unlike the "golden age" (1950-1973) when there was fairly *widespread* growth in the developing world and, in its last phase (1965-1973), some convergence of the real incomes of developing countries vis-à-vis the industrial world, the period since 1980 can be characterized as a "dual divergence", involving both lower growth rates of developing vis-à-vis industrial countries, but also strikingly different growth experiences *among* developing countries (Figure 1). The intermediate period, covering the years between the two oil shocks of the 1970s, was a mixed story: still high average growth in the developing countries, but very high divergence among them.

5 Jones and Olken (2005) try to take this effect into account but do so using rather rough measures of labour force participation and electricity consumption. Their results indicate that there is little change in labour force or capital utilization around either up-breaks or down-breaks. Contrary to this result, Ffrench-Davis (2005) shows that total factor productivity (TFP) estimates tend to be biased in a context of significant changes in capacity utilization. He finds that, once this factor is taken into account, capital stock reappears as the main determinant of growth in most Latin American countries.

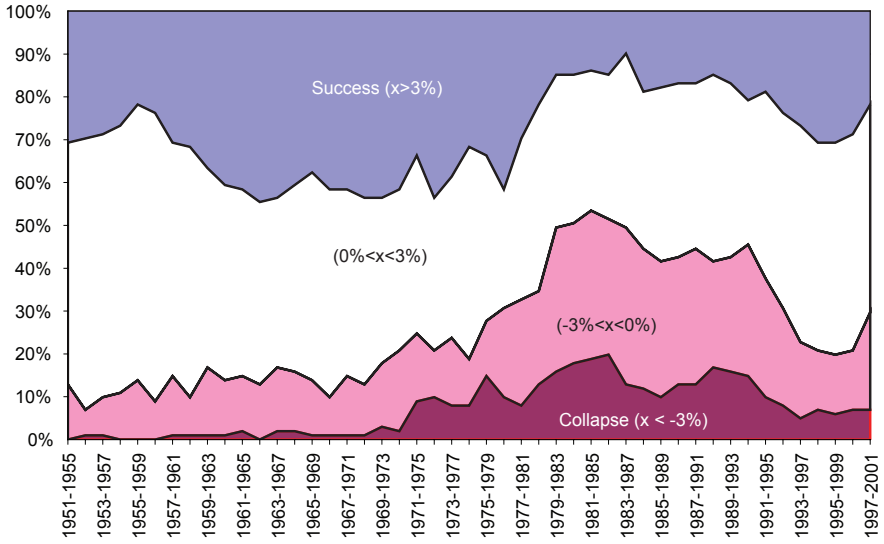
Figure 1.
OECD and developing countries: Per capita GDP growth and dispersion, 1870-2001



Source: Authors' calculations based on Maddison (2001).

The story can best be told in terms of the frequency of episodes of sustained economic growth and collapses over time. In the 1960s and 1970s, about 40 per cent of developing countries could be considered success stories (annual average per-capita GDP growth greater than 3 per cent at least over a five-year period), but this proportion fell to less than 20 per cent through most of the past quarter century (Figure 2). In contrast, less than 15 per cent of the countries had negative growth during the 1960s and 1970s, but that proportion increased to over 40 per cent in the 1980s and early 1990s. Collapses (defined in this graph as growth rates of -3 per cent per capita or less over at least a five-year period) were rather nonexistent during the "golden age" but then shot up and became frequent during the "lost decade" of the 1980s (in several parts of the developing world and not only in Latin America) and in the early 1990s (when collapses were common in the former USSR, Central and Eastern Europe, and Sub-Saharan Africa).

Figure 2:
Percentage of developing countries with per capita GDP growth (five-year moving average) by intervals



Source: Authors' calculations based on Maddison (2001).

A similar story arises in Pritchett (2000), who catalogues countries according to the growth pattern followed before or after a statistically determined structural break, which, on average, fell around 1977-78. According to this classification, out of the 88 countries included in his analysis, 7 followed a steep hill;[6] 13 followed a hill pattern, with steady growth around 1.5 per cent, generally insufficient for convergence with the industrial centre; and 7 accelerated[7] after the break. The majority of developing countries fall under the less appealing categories of growth followed by stagnation (12 plateaus), growth followed by contraction (32 mountains) and stagnation, or very slow growth in both periods (17 plains). This means that, for more than half of developing countries, growth slowed down after the structural break, while very few experienced the opposite trend.

Using a criterion of "success" similar to that used by Hausmann, Pritchett and Rodrik (2004) to define "sustained expansions" (four consecutive five-year periods with growth over 2 per cent per capita[8]), we get again a similar picture: successful growth clustered in the 1960s and 1970s (Figure 3a). Those experiences

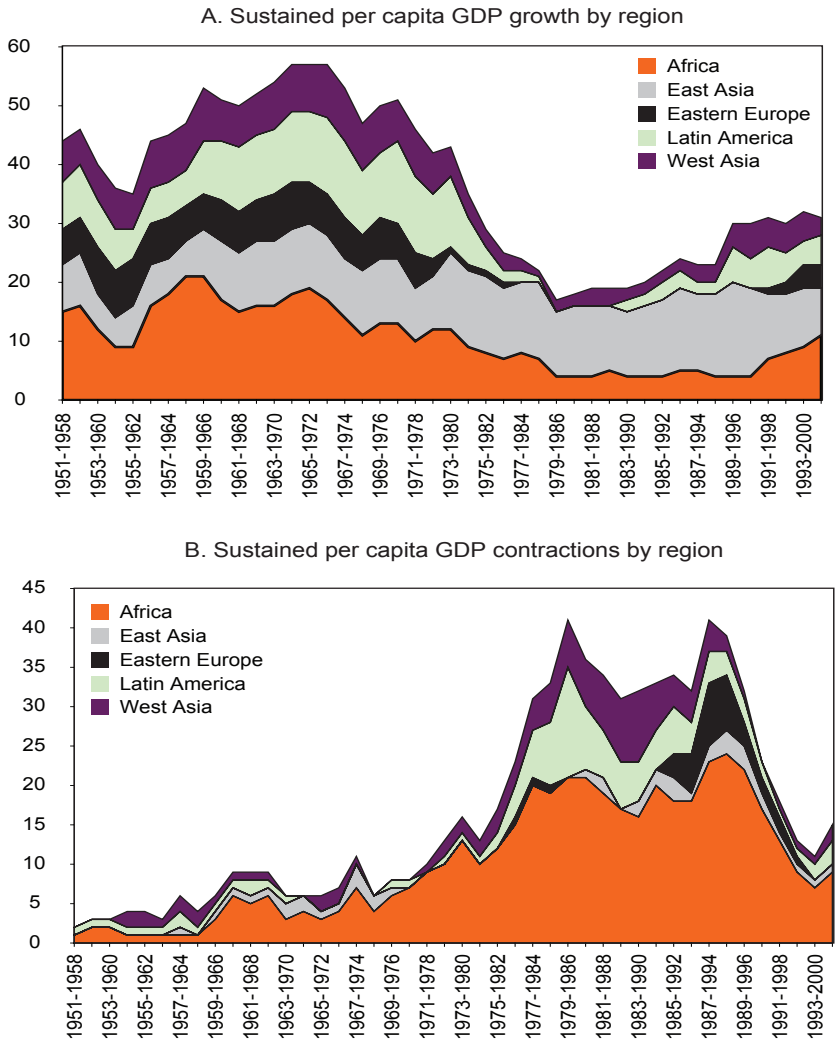
6 Fast growth, above 3 per cent per capita, before and after the break.

7 GDP growth below 1.5 per cent before the break, followed by growth above 1.5 per cent.

8 Four consecutive five-year periods are equivalent to an eight-year period. For example, if the first period is 1964-1968, for it to be considered a sustained expansion or contraction, the periods 1965-1969, 1966-1970 and 1967-1971 also have to be periods of 2 per cent average growth (expansion) or negative growth (contraction).

were widespread in the developing world during the "golden age", tended to disappear in the 1980s, except in East Asia, and became somewhat more common in the 1990s, but at levels far below those of the "golden age". A similar criterion to define "sustained contractions" (four consecutive five-year periods with negative GDP growth per capita[9]) indicates that they were rather infrequent before the first oil shock, then tended to appear more frequently in Africa between the two oil shocks, to become widespread during the "lost decade" of the 1980s and the first half of the 1990s (Figure 3b).

Figure 3.
Frequency of sustained growth and contractions in the developing world



Source: Authors' calculations based on Maddison (2001).

Note: First, 5-year moving averages of per capita GDP growth rates were calculated. Then we counted the number of countries that experience a rate below 0 per cent and of those which experience a rate above 2 per cent. Finally, we only consider the cases in which 4 of those moving averages fulfill consecutively those conditions.

The cumulative effect of successes and collapses is summarized in Table 1. Between two-fifths and one-half of developing countries experienced a fair rate of growth (25 per cent per capita over a decade) from the 1950s to the 1970s; this fell to less than one-fifth during the "lost decade" and increased again in the 1990s, although at levels far below those of the "golden age". Experiences of very rapid growth (over 50 per cent in a decade) were quite common from the 1950s to the 1970s, yet very infrequent since. In turn, experiences of negative or highly negative growth were very infrequent in the 1950s and 1960s, started to become more common in the 1970s, shot up in the 1980s and were still very frequent in the 1990s. Seen as

9 See footnote 8.

Table 1.
Developing countries successes and collapses
(Percentage of total number of countries with cumulative per capita GDP growth rate – 101 countries, 1990 Geary-Kamin dollars, PPP)

		1950-1960	1960-1970	1970-1980	1980-1990	1990-2000
Cumulative growth	X > 25%	42.6%	49.5%	45.5%	15.8%	30.7%
of which:	X > 50%	12.9%	16.8%	17.8%	5.9%	5.0%
Cumulative growth	X < 0%	5.9%	6.9%	26.7%	54.5%	30.7%
of which:	X < -10%	1.0%	3.0%	15.8%	27.7%	18.8%

Source: Authors' calculations based on Maddison (2001).

a whole, therefore, the era of structural reforms in the developing world still has a long way to go to match the performance of the period of high State intervention in development. And the transition from one era to the next has already been registered in history as a long and costly one.

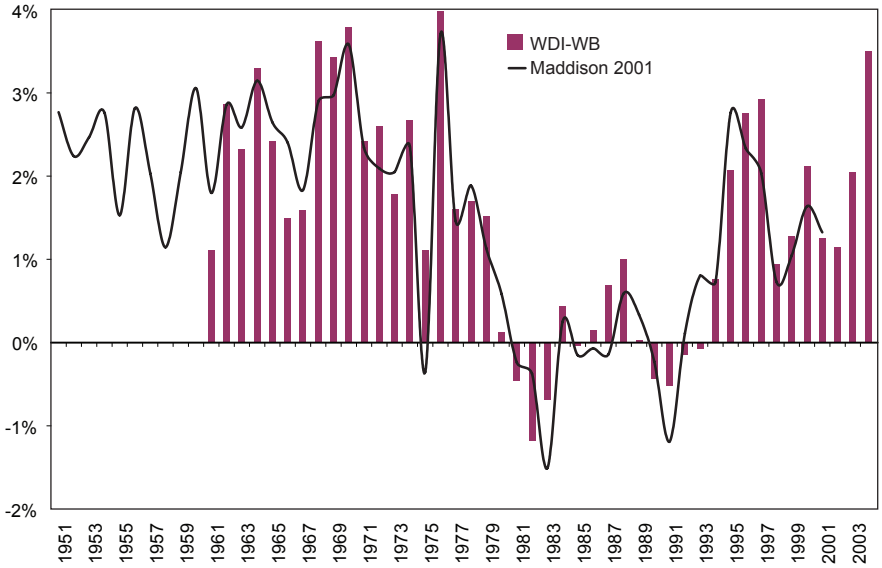
A clear way to summarize the evidence is that *growth successes and collapses tend to cluster in specific time periods*. It is unlikely that the domestic factors explored in the growth literature can explain such clustering. Thus, we have to rely on common external factors, as well as on domestic policies that transmit their effects in developing countries (particularly pro-cyclical macroeconomic policies that tend to reinforce, rather than smooth out, the domestic effects of external shocks; see Ocampo, 2005b). The outstanding difference between "the dual divergence" and the "golden age" has been the significant increase in the frequency of growth collapses and the much lower frequency of growth successes over the last quarter century (1980-2005).

The clustering of both successes and collapses implies that a *global development cycle* has dominated the medium-term trajectory followed by developing countries. This cycle should be understood as the average growth performance of developing countries resulting from a set of external factors that affects all or large clusters of them, and thus constrains each country's growth possibilities. While, historically, these factors have been associated with dynamic processes originating in the industrial world, they have also increasingly encompassed the *global* effects of events originating in developing countries with systemic importance. These determinants of the cycle may have diverging effects on different countries and regions. In this sense, the average growth trajectory is not inconsistent with variable performance within the developing world and, particularly, with strong regional dimensions.

Given the leading role played by the industrial world in determining the global development cycle, it is not surprising that the cycle coincides, to some extent, with the average growth performance of industrial countries. Thus, the end of the "golden age" in industrial countries also marked the end of the "golden age" of development. Nonetheless, other determinants of the cycle are more specific and relate to global trade trends (including those associated with commodity markets) and with boom-bust cycles in international financing to developing countries.

The *global development cycle* is depicted in Figure 4, in terms of the evolution of the weighted and un-weighted average per capita GDP growth of developing countries. The oil shocks of 1973 and 1979 disturbed the normal functioning of developed countries economies, generating inflation and recession, and had important effects in developing countries as well (directly and through the recycling of petrodollars). Nonetheless, the dynamics of oil markets had different effects on different countries and thus cannot explain the general downturn observed by 1980. To explain that, we turn to two major and largely unexpected shocks that severely affected several parts of the developing world.

Figure 4:
The global development cycle, Developing countries, 1951-2004

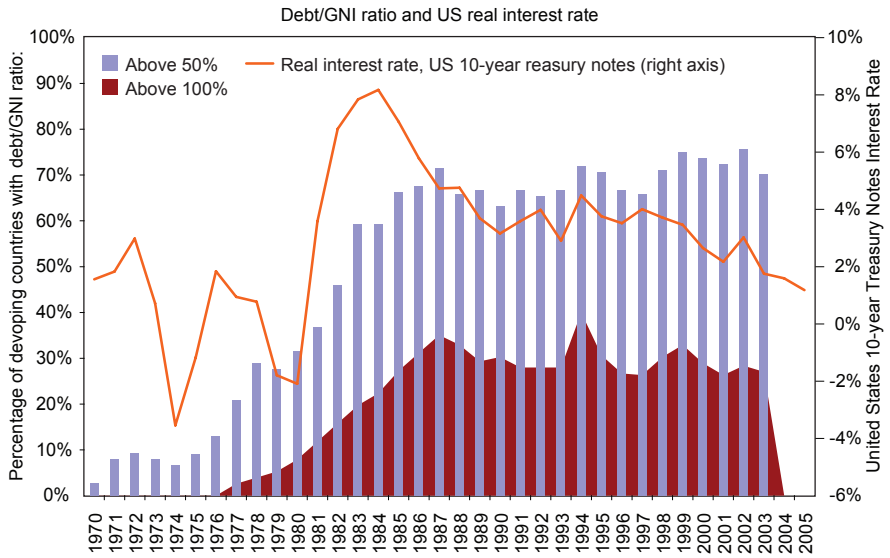


Source: Authors' calculations of per capita GDP growth based on Maddison (2001) and World Bank World Development Indicators Online.

The first was the *permanent effect of the interest rate shock* of 1979 (Figure 5). The second was the *structural downward shift of the terms of trade* (Figure 6). The interest rate shock had no historical precedents. As inflation promptly receded, real interest rates in the U.S. (using the 10-year Treasury note rate as a benchmark) increased from -1.8 per cent in 1979 to 3.6 per cent in 1981, reaching a peak of 8.2 per cent in 1984. The rate faced by developing countries was even higher: the average risk premium paid by developing countries added to the LIBOR rate rose from 2.5 per cent in 1979 to 22 per cent in 1981 in real terms. Having profited from the recycling of petrodollars, developing countries suffered a substantial shock that implied, for many of them, significant balance of payments distress. The non-oil commodity terms of trade shock did have precedents, but only in the distant past (in the 1920s). Real non-oil commodity prices experienced a structural downward shift of over 30 per cent, breaking the long stretch since the 1920s when they had been essentially trend-less (Ocampo and Parra, 2003). The price index of manufactures exported by developing countries, relative to manufactures exported by developed countries, experienced a simultaneous downturn. The unprecedented character of the interest rate shock and the distant memory of a comparable terms-of-trade shock explain the unexpectedly large magnitude of ex-post risks that developing world had to confront.

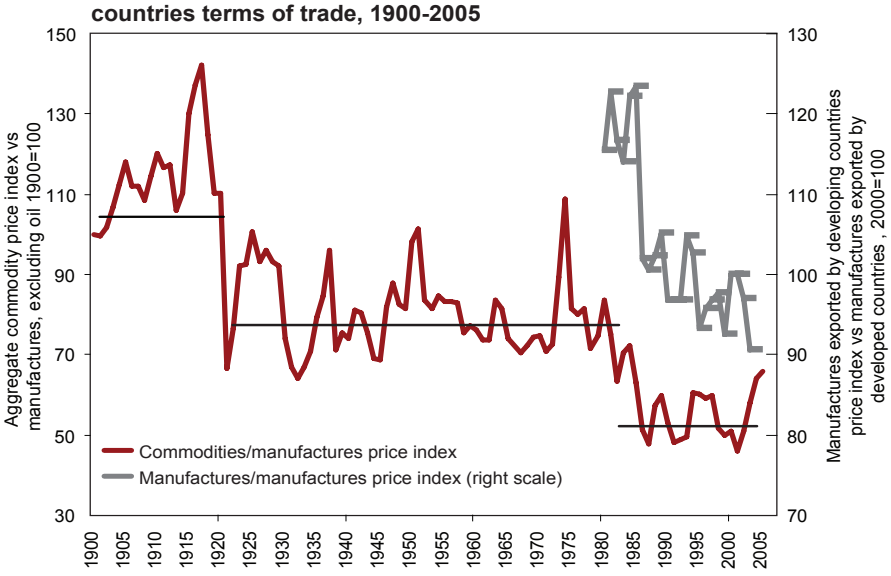
The debt dynamics of developing countries turned explosive after the interest rate shock and had both short-term and long-term effects. The proportion of developing countries with moderate debt ratios (over 50 per cent of GDP) had been rising from the mid-1970s but was still low prior to the shock, whereas the proportion with critical debt ratios (over 100 per cent of GDP) was very low (Figure 5). Both increased sharply *after* the interest rate shock and remained at high levels for the next quarter century, for three basic reasons. The first is that real interest rates remained high: over 4.5 per cent for almost twenty years for that same U.S. interest rate; in fact, they only returned to low real levels in the early 2000s. The second was the lack of international institutions to manage debt overhangs; this is in sharp contrast to the 1930s, when one such "institution" was available: broad based moratoria. Eventually a few solutions emerged, but had only weak effects: the Brady Plan of the late 1980s and the Heavily Indebted Poor Countries (HIPC) Initiative of the mid-1990s (still not fully implemented). The third was that, together with the hike in interest rates, net financial flows became negative. Thus, net resource transfers remained highly negative until the early 1990s

Figure 5:
External debt sustainability and interest rates, 1970-2004



Source: Authors' calculations based on World Bank Global Development Finance Online.

Figure 6:
Primary commodities and developing countries terms of trade, 1900-2005



Source: Grilli and Maw (1988), Ocampo and Parra (2003) and UN (2003).

for a vast number of developing countries. The Asian crisis, and its contagion effects, interrupted the recovery of the 1990s, although the crisis had weaker and more temporary effects than the debt crisis of the 1980s.

Interestingly, the two factors that generated the "lost decade" may at long last be waning. Low real interest rates and the HIPC Initiative may finally break the long-term debt overhangs, while Chinese-led growth has strengthened commodity markets. These are some reasons why the global development cycle may be experiencing an upward shift (See Figure 4 above). It is still unclear, however, if these recent trends and their effects on the global development cycle will be sustainable, as the disturbance in global financial markets associated with the correction of current global imbalances may lead to higher interest rates or risk

premia, and commodity prices may have already reached a plateau (UN, 2006). To the extent that ODA to the poorest countries of the world increases, based on the commitments made in recent years, ODA may also become a positive determinant of the global development cycle.

The central role played by the global development cycle does *not* render regional and country-specific factors insignificant. Indeed, these factors play an important role, particularly in explaining why a country or region departs from the average trend in either phase of the cycle –i.e., why it does not experience rapid growth during periods of growth success in the developing world as a whole, or why it can mitigate or entirely avoid a growth collapse. Nonetheless, this is an entirely different question than that raised in cross-country econometrics. This means that the relevant country- and region- specific factors depend on those affecting the global development cycle and its domestic transmission mechanisms—and may thus be time-bound. It also implies that short-term dynamics, including the way macroeconomic policy is done, can play a more prominent role than the one usually attributed in the growth literature. It means, finally, that long-term determinants of growth—such as institutions, or the level of human capital—largely play a role to the extent that they help explain the capacity of individual countries to benefit from upward phases and their vulnerability to external shocks during the downward phase of the global development cycle.

This can be illustrated by the variable performance of different developing countries during the "lost decade", when, under similar adverse circumstances, some countries ended up in major crises, while others did not. Variance in performance among developing countries has been analyzed from two different angles. The first is through characteristics of the macroeconomic adjustment mechanism, and the second is through the institutional effects of the massive shocks coming from financial and commodity markets. The literature that has analyzed different adjustment mechanism has underscored the virtues of a broader set of macroeconomic instruments, including mixing orthodox with less orthodox instruments (see, for example, Taylor, 1988). The degree of trade liberalization, as measured by the levels of tariff and non-tariff protection, did *not* play a role in the relative performance of different countries during the 1980s (see, for example, UNCTAD, 1992: Part II, Ch. I), but the degree of macroeconomic instability, defined in orthodox terms, did have significant effects. This is, furthermore, the correct interpretation of the effects of several measures of "openness" used in cross-country econometrics, as emphasized by Rodriguez and Rodrik (2001). The possibility and existence of national strategies to profit from the growing markets in the industrial world for manufactures produced in developing countries did have importance as well (see the next section). But, as indicated in the voluminous literature on East Asian industrialization, the strategy followed by these countries has been quite different from trade liberalization, in the traditional sense (see, for example, Amsden, 2001, and Wade 1990).

The adverse effect of inflation on growth has been used to show the incidence of macroeconomic instability on the relative performance of different countries. Seen in this light, however, inflation is partly an *effect* of external shocks. This is reflected in the frequency of episodes of high inflation in the developing world during the "lost decade". That frequency resulted mainly from the broad-based foreign exchange gaps that developing countries faced, which had direct and indirect impacts on domestic inflation (via devaluation).

As Rodrik (1999) has argued, institutional factors, particularly institutions for managing conflict, may help explain why, of countries facing the same adverse circumstances, only some ended up with this type of macroeconomic disequilibria. This argument gives strong indirect backing to the old Latin American structuralist idea that distributive conflicts underlie inflation. Other structural factors may have been at work, too. A typical debate in the Latin American literature of the 1980s focused on the "domestic transfer problem" (transferring resources to the government to service the foreign debt). This transfer was made more

difficult in those countries in which the government did not have direct access to foreign exchange (i.e., did not directly or indirectly control the foreign exchange generated by exports), and thus had to guarantee access to foreign exchange through indirect means (see, for example, ECLAC, 1996). Inflationary crises were more common in countries where the internal transfer was more difficult.

These arguments indicate that external factors have a direct, as well as an indirect, effect on performance in developing countries. The indirect links are associated with the capacity of individual countries to manage vulnerability, but vulnerability would not have played an important role unless the countries faced an external shock. Thus, the features of the relevant domestic factors are not independent of those of the external variables that determine the global developing cycle. Furthermore, the interaction between external and domestic factors may be contingent on the circumstances surrounding a specific period, and their joint effect may have long-term implications associated with path dependence.

The large and unexpected shocks that the developing world faced in the early 1980s provide the best explanation of the poor average performance of developing countries during the "lost decade", while the relatively direct impact of the shocks, as well as the way economies adjusted to them, provide a first explanation of diverging performance among countries. A second explanation focuses on how domestic institutions or other domestic factors may have affected the domestic response to massive shocks. We will concentrate in the next section on a third factor, highlighted in much of the structuralist literature, yet generally ignored in mainstream growth analysis: the role of specialization patterns.

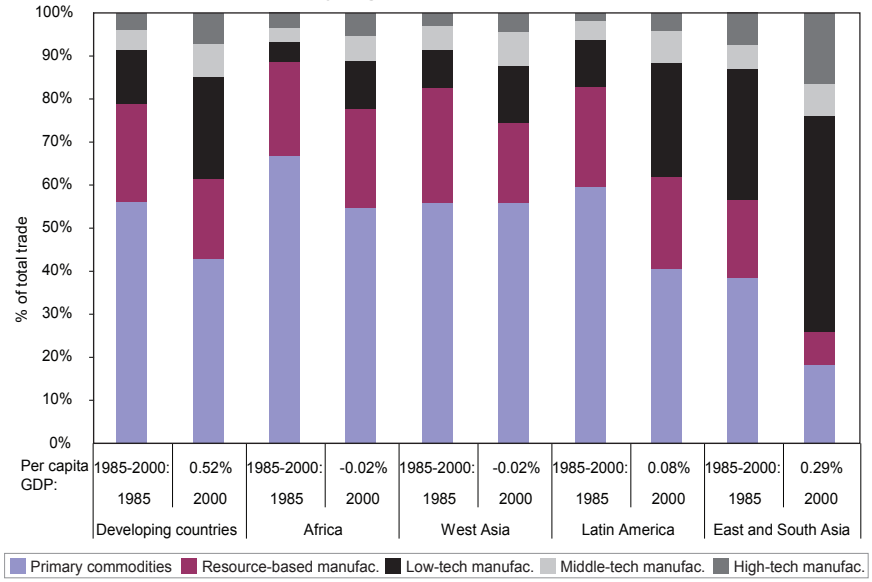
Patterns of specialization

As we have pointed out, the experience of developing countries indicates that growth takes place not in steady flows, but in spurts and collapses of different magnitude and frequency. The transformation of production structures and the role of specialization patterns are crucial in this context. In a broad sense, long-term growth can be understood as a sequence of sector-specific growth spurts, their intensity and the domestic linkages they generate (Ocampo, 2005a). These spurts are the result of innovations and the transformation of production structures that they induce.

In developed countries, innovations are associated with technological waves—or, perhaps using Schumpeter's (1961) terminology, different forms of innovations or "new combinations". In developing countries, innovations are more closely linked to the attraction of sectors, activities and technologies previously developed in the industrial world. Historically, this has involved processes of import substitution, export promotion or a mix of both strategies. In this context, although macroeconomic policy can certainly block or promote it, steady growth can be essentially seen as the result of a successful sequence of innovations in production structures (i.e., of micro and, particularly, *meso*economic processes). These sectoral dynamics are ignored or assumed to play a passive role in growth analyses that concentrate on institutional or macroeconomic features and policies. In contrast, it plays a central role in the "structuralist" tradition of economic thinking, broadly defined, where growth is viewed as the result of success in managing the dynamic transformation of production structures.

Seen in this light, the major issue over the past quarter century has been the rapid transformation of the structure of developing country exports: primary goods and natural-resource intensive manufactures fell relative to low-, mid- and high-technology manufactures (see Figure 7). All developing country regions diversified into the more dynamic components of world trade, but East and South Asia diversified much faster

Figure 7:
Trade specialization by region, 1980, 2002



Source: Authors' calculations based on UNCTAD Handbook of International Statistics Online. Classification of export products following Lall (2001), pp. 122-123.

(including into low-technology manufactures), followed by Latin America. The success stories of the East Asian countries have been related to their achievements in entering external markets, profiting from dynamic economies of scale and transforming their production structures accordingly.

Three factors are important in understanding the links between the evolution of international trade over the past quarter century and the record of economic growth in the developing world. The first is the rate of growth of global markets for developing countries' exports. Dynamic markets for such exports can be generated by high income-elasticities of final demand for them in the industrial world, by economies of diversification (i.e., high and rising demand for diversity of designs), or by the transfer of activities to the developing world due to cost factors (particularly wage costs). The second factor is the strong dynamic economies of scale that characterize sectors with large technological content. In this regard, it can be expected that specialization in sectors with greater technological content will lead to faster growth. The first two factors are linked in practice, as higher technology products are the most dynamic in world trade (Lall, 2001; UNIDO, 2002). The third is the spatial agglomeration that may result from static or dynamic economies of scale. This has long been a key issue in regional economics and has taken centre stage in the recent literature on economic geography (see, for example, Fujita, Krugman and Venables, 1999).

In the face of the diverse dynamics that characterize world markets, developing countries can adopt either of two broadly defined export strategies: increasing market shares in sectors where a specific country has an established position and diversifying into higher technology products. The first strategy is widely available; the second may only be available to a limited number of developing countries. This is particularly true for high technology exports, where opportunities may be subject to agglomeration effects. Opportunities for producing primary goods and natural resource-intensive manufactures are more broadly available, but the dynamism of international markets is limited and can therefore lead to "fallacy of composition" effects. Consequently, the simultaneous entry of several countries into these markets will lead to an oversupply of exports that will be reflected in falling terms of trade for developing countries as a whole and/or to high-cost producers being displaced from the market. Low-tech manufactures fall in between these two cases.

Individual countries can succeed with any of these strategies, especially if they implement appropriate productive strategies (see, for example, the success of Chile with the first, or that of the Republic of Korea with the second). However, *as a group*, developing countries can only succeed, in any market, if final demand is elastic and/or if developed countries lose market shares—provided of course that the process is not hampered by protectionism in the developed countries.

The existing literature has explored these issues in different ways. Lall (2001) argues that export structures, being path-dependent, have important implications for growth and development, with highest technology products having the greatest benefits in terms of learning and spill-over effects, as well as being more dynamic in world trade. Palma (2004) expresses a similar view based on the different capacity that low- vs. high-technology products have in inducing medium- and long-term productivity growth in the economy as a whole, as well as their relative dynamism in world trade. Hausmann, Hwang and Rodrik (2005) have argued, in turn, that the quality of exports, as indicated in the "income level" of a country's exports (i.e., an estimate of the weighted average income of countries exporting specific products, which may be seen to reflect their technological content), is an independent determinant of economic growth.

These relations have been used to explain East Asia's much superior growth performance. According to Lall (2001) and Palma (2004), among others, that performance is closely associated with the continuous effort, both by the State and the corporate sector, to upgrade export production capacities. UNCTAD (2003) provides a detailed analysis of the significant divergence in the growth of developing countries along these lines. The East Asian economies have experienced persistent industrialization drives. In contrast, in Sub-Saharan Africa, the share of manufacturing in GDP fell in the 1980s and stabilized in the 1990s at relatively low levels. South America has experienced premature deindustrialization, while Mexico and Central America avoided this trend by specializing in high-import intensive manufacturing exports, but with limited benefits in terms of growth (see also, in this regard, ECLAC, 2004; Ocampo and Martin, 2004; Palma, 2005).

Some of the transformation processes involved have links to the external shocks experienced by developing countries—i.e., to the dynamics of the global development cycle. Thus, UNCTAD (2003) argues that the impact of integration into the world economy largely depends on the circumstances under which it takes place and on the policies pursued during the integration phase. Integration of Latin America and Africa (as well as Central and Eastern Europe) marked a sharp shift in development strategy, occurring in a "big-bang" manner and following the debt crisis (i.e., a period of weakness). This contrasts with the integration process in East Asia, which occurred from a position of strength and was characterized by a continuous and purposeful strategy of gradual opening up. Expressing it in the Schumpeterian terminology used by Ocampo (2005a), in East Asia, the "creative" elements prevailed ("creative destruction"), while in other regions of the world, the "destructive" components of the restructuring process were stronger ("destructive creation"), reflecting the destruction of many import-substitution activities and the weak domestic linkages generated by new export sectors.

The development impact of the strategy of a given country would depend not only on success in entering markets, but also on the capacity to capture a share of the value added in the production chain. This is, in a sense, obvious and even tautological, for GDP is nothing else but "value added", but it can have broader implications, as those activities with limited value added (e.g., maquila) are also likely to be footloose. In the terms used by Palma (2004), unless the industries are firmly "anchored" in the domestic economy, their growth-enhancing capacity evaporates. Ocampo (2005a) refers to these specialization patterns as "shallow".

According to UNIDO (2002), middle- and high-tech products represent more than 60 per cent of world total manufacturing exports, mainly due to the dynamic growth of high-tech exports. This comes intertwined with the growth of the integrated production systems of multinational firms, which have located different parts of the production chains in different locations and countries (UNCTAD, 2002). Moreover, although the direct and indirect import content of the manufactured exports of developing countries are generally high, and have been rising in recent years, the capacity to capture certain activities (such as assembly tasks) may not lead to rapid growth (UNCTAD, 2002). This is also linked to the relationship the country establishes with FDI: if the strategy to attract FDI is focused, not on creating assets (by providing human resources and infrastructure), but on offering special incentives to multinational investments, the process can ultimately be counterproductive (Mortimore and Peres, 2001).

According to Mayer, Butkevicius and Kadri (2002), becoming part of an international production network broadens the range of sectors on which developing countries can base their quest for industrialization. Given relative factor endowments, developing countries may begin by acquiring competence for the more labour-intensive components of complex products and gradually move to more skill- and technology-intensive activities. Nonetheless, due to the geographically dispersed production sites, the package of technology and skills available at any one site is narrower, and, more generally, the spill-overs from subcontracting or hosting affiliates of multinational enterprises are reduced. As a result, cross-border backward and forward linkages are strengthened at the expense of domestic ones.

Mayer (2003) reviews the literature on the "fallacy of composition" with an emphasis on labour-intensive manufactures. The analysis indicates a potential problem in this market, as competition among different developing countries for export shares may reduce the benefits from manufacturing exports. The likelihood that a country which exports labour-intensive manufactures would be subject to adverse price trends and protectionism in the North has risen with the increasing integration of several highly populated low-income countries into world markets. According to this author, experience in this regard differs across different groups of countries. The group of countries with the lowest proportion of skill- and technology-intensive manufactures and the greatest proportion of labour-intensive products in their manufactured exports has faced declining terms of trade for its manufacturing exports. Others appear to have succeeded in improving their terms of trade vis-à-vis other developing countries by shifting their exports into higher skill- and technology-intensive manufactures. UNCTAD (2002) also shows that there are signs that the prices of the manufactured exports of developing countries have been weakening in the last 20 years vis-à-vis those of industrial countries, especially for the less skill-intensive manufactured exports (see Figure 6).

"Fallacy of composition" effects are even more important in primary goods, most of which face low income-elasticities of demand in world markets. Indeed, the downward structural shift of non-oil commodity prices in the 1980s may be viewed as the result of the massive export supply generated by developing countries trying to adjust to the debt crises (see Figure 6). A similar phenomenon may have affected manufactures exported by developing countries to the industrial world. According to this analysis, the deterioration of the terms of trade can be better explained by differences among countries (developed versus developing countries, different levels of technological capacity, different organization of labour markets, presence or absence of surplus labour, different position in international debt and trade markets, etc), rather than by the characteristics of the goods they export. In other words, the manufactures exported by a large number of developing countries –i.e. labour-intensive manufactures– share some of the disadvantages originally highlighted by the Prebisch-Singer hypothesis in relation to commodity markets (see Ocampo and Parra, 2006, who also survey the relevant literature).

The terms-of-trade debate has essentially been one about whether developing countries need to industrialize or not. As Sarkar (2001) stated, the policy implication of the classical hypothesis on the evolution of commodity prices[10] was that an agricultural country did not need to industrialize to enjoy the gains from technical progress taking place in manufactures; free play of international market forces would distribute the gains from the industrial countries to the agricultural countries through favourable terms of trade. Prebisch (1950) argued that the asymmetries between the centre and the periphery of the world economy destroyed the basic premise of the international division of labour, making the transmission of technical change in the world economy highly uneven. Thus, for developing countries, industrialization was not an end in itself, but the principal means at the disposal of the countries for obtaining a share of the benefits of technical progress and for progressively raising the standard of living of their population.

This has generated another debate in which the point of contention is whether there are "commodity-like" characteristics in manufacturing processes in developing countries that place these countries in double jeopardy in their attempts to escape from unequal exchange in world trade. This debate has generated what Athukorala (2000) calls the "new terms of trade pessimism", in the sense that it could be self defeating for developing countries to try to industrialize. But several individual case studies for Asia show that this is not necessarily true. Some countries have in fact achieved significant terms of trade gains. Could other developing countries also avoid this "curse"? There are, indeed, grounds for optimism, but only in so far as developing countries take a more pro-active attitude towards promoting technological improvements, industrialization and export diversification.

The simple correlation between specialization patterns and growth presented in Figure 8 provides a first look at the relevance of the previous arguments. Economic growth in the developing world is negatively correlated with continued reliance on the exports of primary goods and natural resource-intensive manufactures, but positively correlated with diversifying into mid- and high-tech manufactures, with no clear pattern when we look at low-tech manufactures. There are, however, significant differences in performance around the average pattern.

A closer look at this issue shows the interaction between two different variables: success in increasing market shares and specialization patterns. Tables 2 and 3 provide a detailed look at the evidence on the interaction between these two factors. The first shows countries that have continued to rely on natural resource based manufactures or primary commodities, while the second looks at countries able to increase market shares in non-natural resource based manufacturing categories. In both cases, we restrict the analysis to sectors that represent at least 20 per cent of the exports of a country in 2002.

The evidence presented by these two tables is striking and can be summarized in four major conclusions.[11] First, most countries that have failed to increase shares in world markets are exporters of primary goods or natural resource-intensive manufactures, and all of them experienced either low growth or per-capita GDP contraction. Second, success in increasing market shares in these sectors has been generally associated with weak growth. Indeed, Chile, Seychelles, Oman, Uganda and Egypt are the only cases in the sample of 96 countries analyzed that extracted GDP per capita growth above 2 per cent during 1980-2002 from a strategy based on natural resources (Table 2). Other countries that had rapid rates of growth mixed this strategy with

10 We refer here to the belief, dating back to Adam Smith, that the terms of trade of primary products would show long-term improvement vis-à-vis manufactures, based on the law of diminishing returns in primary production and the law of increasing returns in manufactures.

11 The analysis is based on the structure of exports of goods. Therefore, it does not include diversification into services, which may be behind some of the rapid success stories.

Figure 8.
Specialization vs. Growth: simple correlation patterns, 1980-2002

Source: Authors' calculations based on UNCTAD Handbook of International Statistics Online and UN data.

Table 2.
Share of exports by technological content and economic growth in countries that specialized in primary commodities and natural resource-based manufactures

		Code	Continent	Region	Primary products		Natural resource based manufactures		Low-tech manufactures		Medium-tech manufactures		High-tech manufactures		GDP growth	
					Share in country exports 2002	Annual average increase 1980-2002	Share in country exports 2002	Annual average increase 1980-2002	Share in country exports 2002	Annual average increase 1980-2002	Share in country exports 2002	Annual average increase 1980-2002	Share in country exports 2002	Annual average increase 1980-2002	1980-2002	Average per group
Increasing market shares	Chile	152	2	9	51.6%	6.8%	39.1%	5.4%							2.86%	
	Seychelles	690	1	1	20.2%	1.8%	73.2%	29.8%							2.44%	
	Oman	512	3	13	86.0%	9.6%									2.26%	
	Uganda	800	1	1	83.9%	0.3%									2.16%	
	Sudan	736	1	3	31.7%	0.7%	65.3%	11.7%							1.81%	
	Chad	148	1	2	92.2%	5.5%									1.78%	
	United Republic of Tanzania	834	1	1	66.5%	1.0%	26.6%	1.5%							1.21%	
	Burkina Faso	854	1	5	79.4%	2.4%									1.20%	
	Benin	204	1	5	82.2%	8.3%									1.13%	
	Panama	591	2	8	66.7%	7.1%									1.07%	
	Colombia	170	2	9	52.1%	3.4%									0.96%	
	Mali	466	1	5	81.3%	5.5%									0.88%	
	Mozambique	508	1	1	86.8%	6.5%									0.74%	
	Jamaica	388	2	7			83.1%	0.3%							0.64%	
	Senegal	686	1	5			58.9%	3.4%							0.64%	
	Guinea	324	1	5			90.6%	0.5%							0.49%	
	Mauritania	478	1	5	50.3%	3.8%	46.4%	3.6%							0.42%	
	Iran, Islamic Republic of	364	3	11	89.7%	9.3%									0.37%	
	Brazil	76	2	9	28.6%	6.1%	30.1%	4.7%							0.36%	
	Syrian Arab Republic	760	3	13	83.9%	5.3%									0.30%	
	Ecuador	218	2	9	76.0%	2.8%									0.15%	
	Guinea-Bissau	624	1	5	95.7%	7.9%									0.05%	
	Malawi	454	1	1	77.8%	1.8%									-0.13%	
	Congo	178	1	2	79.4%	1.9%									-0.14%	
	Paraguay	600	2	9	68.7%	4.8%									-0.50%	
	Peru	604	2	9	48.6%	2.1%	33.8%	3.5%							-0.54%	
	Angola	24	1	2	89.3%	5.4%									-0.56%	
	Bahrain	48	3	13			73.3%	3.8%							-0.62%	
	Argentina	32	2	9	50.3%	4.4%	27.3%	5.9%							-0.72%	
	Cameroon	120	1	2	75.5%	1.0%	21.3%	3.0%							-0.77%	
	Zimbabwe	716	1	1	41.8%	0.0%	27.1%	6.3%							-0.96%	
	Gabon	266	1	2	82.1%	0.7%									-1.38%	
	Venezuela, Bolivarian Rep. Of	862	2	9	83.1%	3.9%									-1.43%	
	Nicaragua	558	2	8	62.1%	1.1%	22.5%	3.4%							-1.65%	
	Comoros	174	1	1	92.2%	1.6%									-1.72%	
	Somalia	706	1	1	58.4%	2.9%	35.1%	4.1%							-2.25%	
	United Arab Emirates	784	3	13	62.9%	3.5%									-3.30%	0.20%
Decreasing market shares	Egypt	818	1	3	28.5%	-0.6%	41.6%	5.9%							2.41%	
	Cuba	192	2	7			85.0%	-4.8%							0.70%	
	Ghana	288	1	5	54.4%	-0.4%	37.2%	1.2%							0.47%	
	Gambia	270	1	5	76.4%	-4.1%									0.08%	
	Algeria	12	1	3	83.3%	-0.6%									-0.04%	
	Guatemala	320	2	8	45.6%	-1.0%	26.9%	5.1%							-0.16%	
	Kenya	404	1	1	36.7%	-1.1%	47.3%	0.1%							-0.21%	
	Rwanda	646	1	1	61.6%	-4.9%	35.7%	-1.5%							-0.22%	
	Bolivia	68	2	9	54.9%	1.4%	30.7%	-1.1%							-0.24%	
	Nigeria	566	1	5	99.8%	-0.4%									-0.28%	
	Côte d'Ivoire	384	1	5	59.4%	3.4%	22.3%	-0.8%							-0.45%	
	Burundi	108	1	1	79.8%	-4.2%									-0.61%	
	Central African Republic	140	1	2			86.8%	-1.3%							-1.09%	
	Togo	768	1	5	46.6%	-2.7%	38.4%	-0.6%							-1.52%	
	Zambia	894	1	1	63.1%	-2.7%	21.8%	-0.9%							-1.73%	
	Niger	562	1	5	32.3%	-0.1%	59.5%	-6.4%							-1.87%	
	Djibouti	262	1	1	34.4%	-1.4%	39.4%	0.7%							-1.87%	
	Sao Tome and Principe	678	1	2	96.2%	-5.6%									-1.92%	
	Kuwait	414	3	13	62.3%	1.0%	32.7%	-1.2%							-2.38%	
	Sierra Leone	694	1	5	91.1%	-5.7%									-2.68%	
	Libyan Arab Jamahiriya	434	1	3	81.5%	-1.4%									-3.38%	
	South Arabia	682	3	13	87.0%	-3.0%									-5.06%	-1.00%

Source: Authors' calculations based on UNCTAD Handbook of International Statistics Online and UN data.

Table 3.
Share of exports by technological content and economic growth in countries diversifying exports to non-natural resource based manufactures

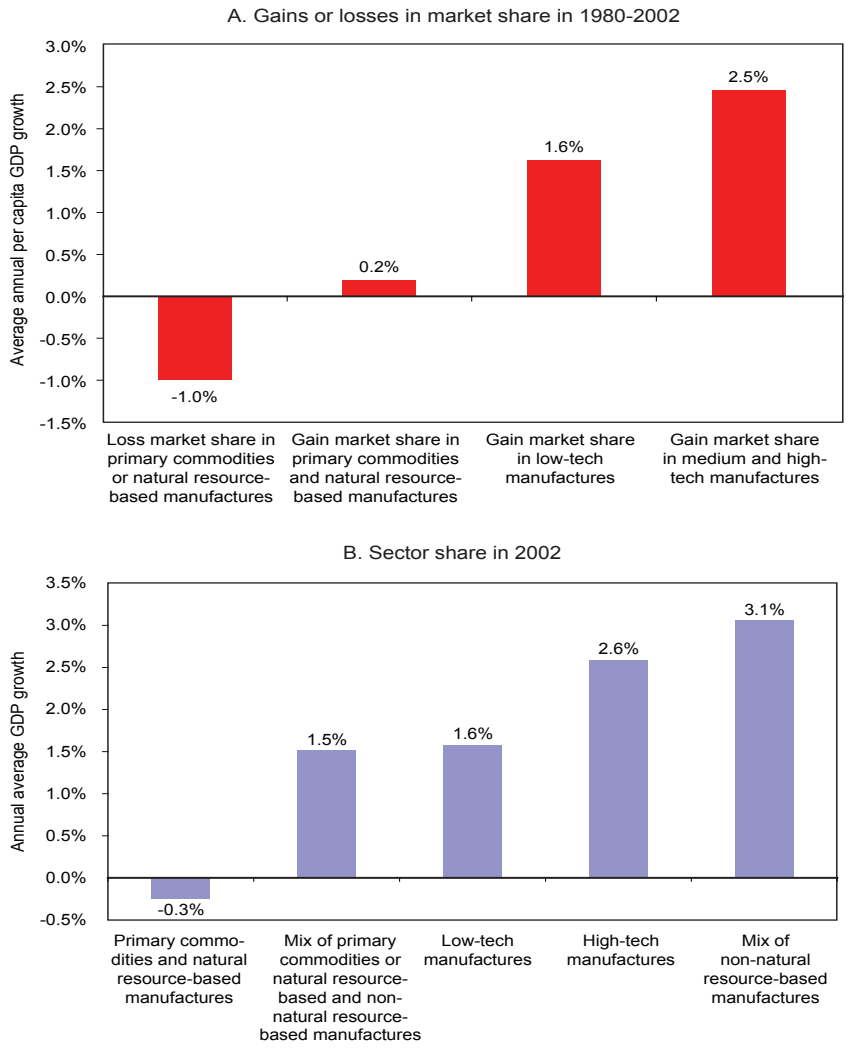
		Code	Continent	Region	Primary products		Natural resource based manufactures		Low-tech manufactures		Medium-tech manufactures		High-tech manufactures		GDP growth	
					Share in country exports 2002	Annual average increase 1980-2002	Share in country exports 2002	Annual average increase 1980-2002	Share in country exports 2002	Annual average increase 1980-2002	Share in country exports 2002	Annual average increase 1980-2002	Share in country exports 2002	Annual average increase 1980-2002	1980-2002	Average per group
Diversifying to low, medium or high-tech manufactures	China	156	3	10					39.0%	14.1%			27.4%	25.1%	8.20%	
	Republic of Korea	410	3	10							30.9%	10.7%	38.4%	17.0%	6.09%	
	Thailand	764	3	12					20.4%	14.1%			31.4%	31.5%	4.50%	
	Singapore	702	3	12									58.6%	15.9%	4.11%	
	Hong Kong SAR, China	344	3	10					37.2%	9.4%	20.6%	10.5%	35.2%	17.3%	3.54%	
	Malaysia	458	3	12									52.7%	18.0%	3.44%	
	Turkey	792	3	13					49.6%	15.5%	20.7%	18.5%			2.00%	
	Israel	376	3	13			45.3%	10.3%					26.6%	14.5%	1.64%	
	Hungary	348	4	14							33.3%	22.2%	31.5%	17.2%	1.55%	
	Poland	616	4	14					30.6%	6.6%	30.4%	3.8%			1.24%	
	Costa Rica	188	2	8	26.6%	2.6%							26.7%	22.4%	1.04%	
	Czech Republic	200	4	14			20.4%	4.0%	26.0%	2.9%	27.7%	4.3%	21.9%	10.5%	0.94%	
	Mexico	484	2	8							26.6%	12.1%	33.1%	15.3%	0.52%	
	Trinidad and Tabago	780	2	7	20.6%	-3.3%	46.6%	-1.1%			25.2%	14.3%			0.44%	
	Philippines	608	3	12									70.6%	29.5%	0.22%	
	Romania	642	4	14					48.0%	2.9%	21.5%	0.4%			-0.12%	2.5%
Diversifying to low-tech manufactures	Viet Nam	704	3	12	50.4%	18.3%			31.9%	20.7%					4.59%	
	Mauritius	480	1	1			24.6%	1.5%	62.9%	11.9%					4.47%	
	India	356	3	11			32.1%	11.6%	36.2%	9.4%					3.58%	
	Indonesia	360	3	12	31.9%	0.1%	24.6%	5.9%	20.6%	21.5%					3.34%	
	Cape Verde	132	1	5					93.1%	25.7%					3.23%	
	Sri Lanka	144	3	11	22.8%	2.2%			59.1%	15.3%					3.18%	
	Myanmar	104	3	12	53.0%	10.2%			27.9%	28.0%					2.71%	
	Dominican Republic	214	2	7					61.4%	4.1%					2.45%	
	Nepal	524	3	11					74.0%	11.2%					2.25%	
	Tunisia	788	1	3					53.2%	10.0%					2.16%	
	Bangladesh	50	3	11					88.8%	10.2%					1.97%	
	Pakistan	586	3	11					76.0%	8.3%					1.89%	
	Morocco	504	1	3	22.6%	1.2%	20.1%	3.6%	38.5%	11.5%					1.15%	
	Albania	8	4	16					80.8%	8.7%					1.07%	
	El Salvador	222	2	8			28.3%	10.8%	34.2%	5.0%					0.69%	
	Mongolia	496	3	10	26.6%	-4.7%	37.9%	12.0%	34.5%	4.1%					0.61%	
	Uruguay	858	2	9	41.5%	3.4%	22.3%	5.2%	29.2%	0.6%					0.21%	
	Honduras	340	2	8	31.2%	-0.1%	43.6%	5.5%	20.2%	8.1%					-0.16%	
	Jordan	400	3	13	24.7%	5.2%			29.3%	10.2%					-0.68%	
	Madagascar	450	1	1	55.2%	-3.1%			32.8%	10.6%					-2.08%	
	Haití	332	2	7					85.3%	4.1%					-2.42%	1.6%

Source: Authors' calculations based on UNCTAD Handbook of International Statistics Online and UN data.

low-tech manufactures (Vietnam, Mauritius, India, Indonesia, Sri Lanka and Myanmar) or high-tech manufactures (Costa Rica, which had, in any case, a much lower rate of growth). Third, there are cases of countries (Cape Verde, Dominican Republic, Nepal and Tunisia) that have extracted rapid growth from a specialization pattern based on low-tech manufactures or, as previously mentioned, by mixing it with natural resource intensive goods, but most developing countries that have grown fast have been increasing market shares in mid- or high-technology exports (Table 3). Finally, there is, in any case, a significant difference in the capacity of Asian countries to extract growth out of these sectors vis-à-vis Latin American (Costa Rica and Mexico), Central European (Hungary and Poland) and West Asian (Turkey) countries. This may be related to the "destructive" features of productive restructuring underway outside Asia, but also to the stronger linkages associated with new technology exports in Asia, which are in some cases national, but more generally regional in character.

Figure 9 summarizes in a simple way the evidence provided in Tables 2 and 3. Panel A shows the very large difference in average growth rates between countries undergoing a transformation of specialization patterns into higher technology exports vs. those specializing in natural resource-intensive sectors, even when they increased market shares in those sectors. Those gaining market share in low-tech manufactures fall in between. Panel B shows that countries that still based their exports mainly on primary commodities

Figure 9.
Specialization vs. Growth: 1980-2002



Source: Tables 2 and 3.

and natural resource based manufactures in 2002 did not grow in the previous two decades. Countries that grew the most had specialized in two (out of three) non-natural resource based manufacturing categories or only in high-tech manufactures. Mixes involving natural resource exports with non-natural resource intensive manufactures, as well as specialization in low-tech manufactures, fall in between. This indicates that *specialization patterns, and their evolution over time, do matter*. Indeed, few factors among those explored in standard growth regressions can explain differences as large as those captured in Tables 2 and 3 and Figure 9, which are in the order of 3 percentage points per year.

Although the conclusions are not necessarily very encouraging for all developing countries, they indicate that any country wanting to speed up growth should learn from the NIEs' State and corporate efforts to consistently upgrade export production capacities. Although diversifying into mid- and high-technology exports is not feasible for many developing countries, and there may be agglomeration forces at work that benefit the already dynamic East Asian regional cluster, there could be opportunities for some of them that should not be disregarded.

Most developing countries would have to compete in primary goods, natural resource or low-tech manufacturing exports, where they may face "fallacy of composition" effects. The medium-term option is clearly to promote the continued opening of markets for these products by industrial countries. In the long term, countries should not hesitate to enter the export learning process, always having in mind the objective of upgrading export capabilities and avoiding stagnation around primary commodities and perhaps even labour-intensive manufactures.

Conclusions

This paper analyzes major factors explaining the transition from the "golden age" of fairly widespread growth in the developing world in 1950-1973 to the "dual divergence" since 1980, involving both lower growth rates of developing vis-à-vis developed countries and strikingly different growth experiences among developing countries. It builds from a growing body of literature emphasizing discontinuities in the growth experience of developing countries—growth spurts and collapses—that render traditional cross-country econometrics involving long time periods a rather useless analytical tool. The paper builds also on issues traditionally emphasized by the structuralist literature, yet frequently ignored by mainstream development economists.

A clear way to summarize the evidence is that *growth successes and collapses tend to cluster in specific time periods*. It is unlikely that the domestic factors explored in the mainstream growth literature can explain such clustering; so, we have to rely on common external factors. The significant increase in the frequency of collapses and the much lower frequency of successes in the last quarter century (1980-2005) is the significant difference between the period of the "dual divergence" and the "golden age". The clustering of successes and collapses implies that a *global development cycle* has dominated development trends. The global development cycle is partly determined by that of the industrial world countries. Thus, the end of the "golden age" in industrial countries also marked the end of the "golden age" of development. However, other determinants of this cycle are more specific, and have to do with the functioning of financial markets vis-à-vis developing countries (and, more particularly, emerging markets) and with the major structural downturn experienced by the terms of trade in the 1980s.

Of course, country specific factors still play a role, explaining why a country does not experience rapid growth during periods of growth success in the developing world as a whole, or why it can better manage vulnerabilities during downswings of the global development cycle. And domestic policies, particularly pro-cyclical macroeconomic policies, are crucial for transmitting the effects of external shocks. Nonetheless, the relevant domestic factors are not independent of the external factors that determine the global development cycle. Furthermore, this interaction between external and domestic factors may be contingent on the circumstances surrounding a specific period.

Discontinuities in the growth experience are important, due to the path dependence generated by dynamic economies of scale, which reflect the links between technological learning and production experience. An additional issue, not explored in this paper, is associated with the effects of shocks and major institutional changes on State institution-building, due to the complex "learning" process involved.

Discontinuities are also important for development in the sense that long-term growth should be understood as the result of a sequence of sector-specific growth spurts, their intensity and the domestic linkages they generate. This implies that *specialization patterns are crucial to understand growth dynamics*. Overall,

the evidence presented in this paper underscores the very large difference between the average growth of countries undergoing a transformation of specialization patterns into higher technology exports and that of countries experiencing success in primary goods sectors.

This conclusion is not necessarily very encouraging for developing countries as a whole, for the opportunity to diversify into medium- and high-technology exports may not be available to many of them, given the agglomeration forces at work. In any case, more developing countries should learn from the NIEs' substantive State and corporate sector efforts to consistently upgrade export production capacities.

Most developing countries would have to compete in primary goods, natural resource or low-tech manufacturing exports, where they are likely to face "fallacy of composition" effects. The medium-term option is clearly to promote the continued opening of markets for these products by industrial countries. In the long term, countries should be aware of the risk of fallacy of composition, yet simultaneously promote a process of export diversification that creates dynamic comparative advantages and "climbs the ladder" towards more technologically advanced products.

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