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Chapter I

CURRENT ISSUES IN THE WORLD ECONOMY

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A. Recent trends in the world economy

1. Global growth

The world economy is expanding vigorously for the fifth year in a row. Global gross domestic product (GDP) is set to grow at 3.4 per cent in 2007, measured at market exchange rates,[1] compared to 4 per cent in 2006. As most of this moderate slowdown can be explained by a slowdown in the United States economy, GDP growth rates in other regions – including developing and transition economies – should remain more or less the same as in 2006 (table 1.1).

Deceleration of growth in the United States was due mainly to a reversal in the previously booming housing market, which had sustained private consumption. Given the higher long-term interest rates, there is a possibility of an outright contraction in house prices that might further erode the solvency of private households and precipitate a reduction in private consumption. Similar concerns hold for the United Kingdom, where an increasingly restrictive monetary policy and growing private indebtedness threaten to reduce domestic consumption, which had underpinned

growth in recent years. In Germany and Japan, where the acceleration of growth had been stimulated mainly by rapidly rising net exports and a recovery in fixed investment, private domestic demand remains fragile, despite rising employment and some success in reducing unemployment.

East and South Asia continue to experience particularly high growth, owing to the strong performances of China and India. Their high investment ratios (exceeding 40 per cent of GDP in China, and close to 30 per cent in India) can only persist if large external shocks can be avoided and if economic policy is not forced to limit expansion to a greater extent than currently envisaged. This should not lead to an overshooting of exchange rates and to a major policy shift in the United States. Other countries in East, South and South-East Asia have benefited from the dynamism of India and China through strong export performances.

The pace of economic expansion has also been rapid in other developing regions and in the transition economies, including the Commonwealth of Independent States (CIS), which have benefited from strong demand for primary com-

Table 1.1

WORLD OUTPUT GROWTH, 1991–2007[a]

(Annual percentage change)

Region/country	1991–2000[b]	2001	2002	2003	2004	2005	2006[c]	2007[d]
World	**2.9**	**1.5**	**1.8**	**2.6**	**4.1**	**3.4**	**4.0**	**3.4**
Developed countries	**2.5**	**1.1**	**1.2**	**1.8**	**3.1**	**2.4**	**3.0**	**2.4**
of which:								
Japan	1.1	0.2	0.3	1.4	2.7	1.9	2.2	2.3
United States	3.5	0.8	1.6	2.5	3.9	3.2	3.3	2.0
European Union	2.2	1.9	1.2	1.2	2.3	1.7	3.0	2.8
of which:								
Euro area	2.1	1.9	0.9	0.8	2.0	1.3	2.8	2.6
France	2.0	1.9	1.0	1.1	2.3	1.2	2.2	2.0
Germany	1.8	1.2	-0.0	-0.2	1.3	0.9	2.8	2.8
Italy	1.5	1.8	0.3	0.0	1.1	-0.0	1.9	1.9
United Kingdom	2.7	2.4	2.1	2.7	3.3	1.9	2.8	2.7
South-East Europe and CIS	**-4.2**	**5.9**	**5.2**	**7.1**	**7.7**	**6.4**	**7.5**	**7.0**
South-East Europe[e]	-0.9	4.8	4.7	4.3	6.2	4.7	6.2	5.6
CIS	-5.0	6.2	5.4	7.8	8.1	6.8	7.7	7.3
of which:								
Russian Federation	-4.7	5.1	4.7	7.3	7.2	6.4	6.7	6.4
Developing countries	**5.0**	**2.6**	**3.8**	**5.1**	**7.1**	**6.5**	**6.9**	**6.4**
Africa	2.7	3.7	3.4	4.9	5.3	5.3	5.6	6.0
North Africa (excl. Sudan)	3.2	3.9	3.4	5.3	5.0	4.5	5.7	5.9
Sub-Saharan Africa (excl. South Africa)	2.6	4.1	3.4	5.5	5.8	6.2	5.8	6.8
South Africa	2.1	2.7	3.6	3.1	4.8	5.1	5.0	4.8
Latin America and the Caribbean	3.2	0.3	-0.5	2.1	6.2	4.8	5.7	4.7
Caribbean	1.8	0.5	2.5	2.7	3.7	6.9	8.5	6.2
Central America (excl. Mexico)	4.5	1.7	2.4	3.6	4.0	4.5	6.0	4.6
Mexico	3.1	-0.0	0.8	1.4	4.2	3.0	4.8	2.5
South America	3.3	0.3	-1.5	2.4	7.4	5.4	5.8	5.5
of which:								
Brazil	2.9	1.3	2.7	1.1	5.7	2.9	3.7	4.5
Asia	6.5	3.5	5.9	6.5	7.8	7.4	7.6	7.2
East Asia	8.5	5.0	7.3	6.9	8.2	7.8	8.4	8.0
of which:								
China	12.4	8.3	9.1	10.0	10.1	10.2	10.7	10.5
South Asia	5.3	4.4	4.7	7.0	7.7	8.0	7.9	7.5
of which:								
India	6.0	5.0	4.0	7.1	8.5	9.2	9.2	8.5
South-East Asia	5.1	2.1	4.8	5.4	6.6	5.7	6.0	5.7
West Asia	3.9	-0.9	3.5	5.4	7.8	6.9	5.5	5.2

    a Calculations are based on GDP at constant 2000 dollars.
    b Average.
    c Preliminary estimates.
    d Forecast.
    e Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Romania, Serbia and Montenegro, and the former Yugoslav Republic of Macedonia.

modities and, in most cases, from considerable improvements in their terms of trade. In several countries, higher prices for energy and other primary commodities have generated huge surpluses in the current account, which have contributed to higher revenue for domestic agents, including governments. This has paved the way for an expansion in private consumption and a strong recovery in investment. Even in countries that have not benefited much from improvements in their term of trade, such as Brazil and South Africa, governments have launched proactive pro-development programmes that seek to sustain growth rates through increased investment in infrastructure.

To a certain extent this is also true for Africa as a whole. That region is set to grow at 6 per cent in 2007, mainly driven by producers of oil and other commodities that are in strong demand on the global market. Latin America is expected to see a growth rate of slightly below 5 per cent, whereas West Asia is likely to complete a five-year period of growth rates above 5 per cent, mainly as a result of huge terms-of-trade gains in the oil-exporting countries of the region.

The main risks for continued global economic expansion come from the failure to address the current global imbalances (discussed in section B below). If the present slowdown in the United States economy deepens and it slips into a recession, and if the main surplus countries, despite an appreciation of their currencies, do not initiate much greater expansionary policies based on domestic demand, rather than on net exports, the outlook will be rather bleak. With respect to stimulating demand, some positive developments are under way. In China, economic policy is seeking to invigorate domestic consumption by increasing the incomes of low-wage earners (including farmers' disposable incomes) and by improving the social security system. It is also attempting to slow down investment and some exports, especially those from highly polluting and energy-consuming industries, through taxation and monetary policy (Tao, 2007). Among the high-surplus developed countries, expenditure switching is envisaged in Germany with the appreciation of the euro. In Japan domestic consumption is picking up following several years of sluggishness, but due to speculative capital flows the yen is extremely weak and is further fuelling exports. It is not cer-

Table 1.2

PER CAPITA GDP GROWTH BY REGION AND ECONOMIC GROUPING, 1981–2007

(Per cent)

	Average annual growth			Overall growth
	1981– 1989	*1990– 2002*	*2003– 2007*	*1981– 2007*
World	1.4	1.2	2.3	41.4
Developed economies	2.5	1.8	2.0	67.5
Economies in transition	1.9	-4.0	7.3	-25.8
Developing economies	1.7	3.0	5.0	112.5
of which:				
Africa	-0.5	0.3	3.0	16.4
America	-0.3	1.1	3.5	22.7
West Asia	-1.7	1.1	4.1	16.0
East and South Asia	5.1	5.3	6.3	317.5

Source: UNCTAD secretariat calculations, based on *UNCTAD Handbook of Statistics*; and table 1.1.

tain whether the effects of these developments will be strong enough to avoid a recession in the process of redressing the imbalances.

From a medium-term perspective, the recent economic performance of developing and transition economies shows a notable improvement in their catch-up efforts with developed countries, although in absolute terms the differences in per capita income among them are growing. For more than two decades, between 1981 and 2002, the average growth rate of developed countries was higher than that of most developing economies, while the per capita GDP of transition economies plummeted between 1990 and 2002 (table 1.2). During this period, the only developing region that reduced its relative gap (in terms of real per capita GDP) with the developed countries was East and South Asia. Overall per capita GDP growth in Africa and West Asia over the period 1981–2007 has increased by 16 per cent; and in Latin America it has increased by 23 per cent. Since 2003, Africa, West Asia and Latin America have achieved high and stable growth rates, after more than two decades of stagnation. The already rapid growth

rate in East and South Asia has accelerated to reach a phenomenal overall growth of more than 300 per cent since 1980 – effectively doubling its GDP per capita in only 14 years. The transition economies resumed growth in 1999; since 2000, they have been the most rapidly growing economies in the world, with a cumulative increase of 73 per cent in real per capita GDP; however, this recovery has occurred after such a deep depression that, at present, their average per capita GDP is still below the level of 1980.

In relative terms, in the last 27 years there has been only a moderate reduction in the gap between developing and developed countries: in 1980, the real per capita GDP of developed countries was 23 times higher than that of developing countries, but it narrowed to 18 times in 2007. The performance of East and South Asia was almost exclusively responsible for this overall reduction in global inequality, given that their gap with developed countries was reduced, from 48 times in 1980 to 19 times in 2007. For Africa, Latin America and the transition economies, the relative gap is much wider today than in 1980, despite improvement in the last five years.

Strong GDP growth over the past few years has led to a significant increase in employment. However, unemployment rates fell significantly only in Latin America and the transition economies, although at 8 and 9 per cent, respectively, they remained at relatively high levels. In Asia, where official unemployment is quite different from region to region, the rates have remained fairly stable over the last five years: at 3.5–4 per cent in East Asia, around 5 per cent in South Asia and close to 6.5 per cent in South-East Asia. Growth rates in South-East Asia have not been able to lower unemployment to levels that existed before the 1997–1998 financial crisis. In sub-Saharan Africa, there has been only a minor fall in unemployment (UNCTAD, 2007a: chart 7). The slow response of unemployment to growth in developing regions may be due to the huge reserves of labour that are stimulated to enter the formal markets only in phases of sustained demand for labour and rising wages.

Investment has also responded positively to the improved economic environment since the turn of the century. While real investment in the de-

veloped countries has remained rather flat (and investment/GDP ratios have declined), it has increased significantly in developing and transition economies since their recovery from the financial crises. As real investment growth generally outpaced that of real GDP, the investment ratio rose in most developing and transition economies. The partial exception to this trend is that of South-East Asia, where GDP/investment ratios have improved since 1998, but not to their very high pre-crisis levels. This improvement in investment rates has occurred at a time when many developing countries have posted significant current-account surpluses, turning them into net exporters of capital. The fact that the export of capital by poor developing countries (supposedly endowed with little capital) to the rich North (supposedly endowed with abundant capital) has not constrained their ability to invest larger sums in fixed capital at home, challenges fundamental orthodox development theory. This implies a need for rethinking the most crucial assumptions about the functional relationship between savings, investment, capital flows and the different policies and paths for catching up (UNCTAD, 2007a: 11).

2. Trade, commodity prices and terms of trade

(a) Expansion of world trade

In parallel with the strong performance of the world economy, world trade expanded vigorously in 2006. Total merchandise exports grew by almost 15 per cent in current dollar prices, with an increase in volume terms of 8 per cent (table 1.3) and in unit value terms of almost 6.5 per cent. Much of the increase in dollar unit values is related to rising commodity prices (discussed below).

In 2006, export expansion (by volume) was evenly distributed among developed and developing countries, although with wide divergences between developing regions. Developed countries benefited from increasing demand from commodity exporting countries as a result of their higher export revenues. The European Union (EU) benefited particularly from increasing sales to oil-exporting

Table 1.3

**EXPORT AND IMPORT VOLUMES OF GOODS, BY REGION AND
ECONOMIC GROUPING, 2001–2006**

(Percentage change over previous year)

	Export volume						Import volume					
	2001	*2002*	*2003*	*2004*	*2005*	*2006*	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*
World	**-1**	**5**	**6**	**11**	**5**	**8**	**-1**	**5**	**7**	**12**	**6**	**7**
Developed economies	**-1**	**3**	**3**	**9**	**5**	**9**	**-1**	**3**	**5**	**9**	**6**	**6**
of which:												
Japan	-8	8	9	13	5	9	1	1	6	6	2	2
United States	-6	-4	3	9	7	10	-3	4	5	11	6	6
European Union	1	4	3	9	5	9	1	3	5	9	6	7
South-East Europe and CIS	**5**	**10**	**10**	**13**	**0**	**6**	**17**	**14**	**22**	**20**	**12**	**12**
South-East Europe	10	15	22	22	6	10	17	17	26	20	7	13
CIS	5	9	8	11	-1	6	17	12	21	20	14	11
Developing economies	**-1**	**9**	**12**	**17**	**6**	**9**	**-1**	**7**	**12**	**19**	**7**	**10**
Africa	1	5	4	9	1	1	7	7	7	14	10	5
Latin America and the Caribbean	2	0	4	9	5	4	0	-7	1	14	8	12
East Asia	-1	15	21	24	17	18	-1	14	19	19	6	10
of which:												
China	8	24	34	32	26	25	13	23	34	25	8	13
South Asia	0	15	10	12	11	8	7	13	13	16	13	6
of which:												
India	5	17	13	19	15	14	4	11	18	19	19	9
South-East Asia	-5	7	7	17	6	11	-7	7	8	18	5	6
West Asia	-3	5	6	17	-1	2	-2	6	9	37	10	15

Source: UNCTAD secretariat calculations, based on *UNCTAD Handbook of Statistics* database.

countries in West Asia and the CIS; and countries exporting capital goods also profited from expanding investment in other developing regions. The United States also registered strong export growth, of 10 per cent – its highest since the beginning of the 2000s – as a result of higher demand from the recovering economies of the EU and Japan and a depreciating dollar. In Japan, rapid export growth was mainly due to the weak yen and to increased demand for Japanese products from China and other South-East Asian countries. In developed countries, imports (by volume) grew at a slower pace than exports reflecting the deterioration (albeit quite moderate) in their terms of trade.

Output growth in developing and transition countries has been stimulated by the surge in ex-

port revenues. In some regions, the purchasing power of exports increased through the expansion of the volume of goods exported; in others, gains from changes in the terms-of-trade played a greater role. Exporters of manufactures from East, South and South-East Asia belong to the first group. China and India, in particular, contributed significantly to regional trade expansion. Export-led growth in China led to a 25 per cent increase in its exports (by volume), which continued to outpace global trade growth by far. India's export growth (by volume) was also higher than the world average, at 14 per cent, with a surge in manufactured exports. The export growth performance of other countries in East and South Asia was also good as a result not only of healthy global demand, but also of a high level of intraregional trade

in manufactures. In these countries, export growth (by volume) continued to significantly exceed import growth. Greater integration with the EU is also the reason for increasing trade volumes in South-East Europe. Import growth (by volume) was higher than export growth both in South-East Europe and the CIS, as a result of sustained economic growth.

Export performance (in volume terms) was less buoyant in Africa, Latin America and the Caribbean and West Asia. The rapid expansion of 2004 in the volume of oil exports from the Gulf countries could not be sustained in 2005 and 2006, as most of the spare production capacity had already gone on-stream. Export volumes were relatively stable in Africa and West Asia, and increased by 4 per cent in Latin America and the Caribbean. However, given the large weight of primary commodity exports in total exports in these regions, high commodity prices boosted growth in export value: by 15 per cent in Africa, 18 per cent in West Asia and 20 per cent in Latin America and the Caribbean. As a result of this improvement in the terms of trade and their strong economic growth, import demand has also been growing fast in these regions.

Exports of developing countries in value terms have consistently been growing faster than those of developed countries in the 2000s. As a result, the share of developing countries in global exports increased from 32 per cent in 2000 to 37 per cent in 2006. However, most of this increase was in Asia; China alone accounted for much of it, as its share in global exports increased from 3.9 per cent to 8.1 per cent over this period. Africa's share in total exports (by value) increased only slightly, from 2.3 to 2.8 per cent, and that of Latin America and the Caribbean remained roughly stable – just below 6 per cent. The share of South-East Europe and the CIS also increased, from 2.6 in 2000 to 4.1 per cent in 2006. By contrast, the share of developed countries fell from 65.6 to 59.1 per cent during that period.

Future developments in world trade and in the performance of the global economy will be influenced to a large extent by the Doha Round of multilateral trade negotiations under the aegis of the World Trade Organization (WTO). These negotiations, which were resumed in February 2007 following their suspension in July 2006, will require strong efforts and political will to advance and to achieve a truly development-oriented outcome. The negotiating parties should recognize the structural differences between industrialized and developing countries and the resulting need of developing countries to use policy instruments that could help maximize the impact of trade integration on the development of their domestic productive capacities.

(b) Commodity price developments

In 2006 and early 2007 commodity producers continued to benefit from the boom in commodity markets which had started in 2002. Indeed, the growth in non-fuel commodity prices strengthened in 2006, at a rate of 30.4 per cent – the highest since the start of the upswing (table 1.4). Price hikes continued for almost all commodities in 2006, although the rate of increase varied by commodity and commodity group. The minerals, ores and metals group remained in the lead with the most pronounced rise (60.3 per cent in 2006); food commodities and agricultural raw materials also saw sharp increases, the lowest increases being in the tropical beverages and vegetable oilseeds and oils groups. Prices for tropical beverages increased significantly less in 2006 than in 2005, although their markets, mainly for coffee, seem to have recovered from the crisis and oversupply situation of the late 1990s and early 2000s. Furthermore, the growth rate in the price of crude petroleum, of 20.4 per cent in 2006, was less than half that of 2005.

As a result, the UNCTAD price index for non-fuel commodities reached its highest level in current dollars since 1960. Price indices of minerals, ores and metals, agricultural raw materials and crude petroleum also hit an all-time record in nominal terms. The food index reached its highest level since its last peak in 1996, while the price indices for tropical beverages and vegetable oilseeds and oils remained below their previous peaks attained in 1997 and 1998 respectively. The prices of agricultural raw materials equalled those reached in 1995. However, even though the price indices of all commodity groups in nominal terms have been above their declining long-term trend in real terms, most real prices of commodities are still far below

WORLD PRIMARY COMMODITY PRICES, 2001–2006

(Percentage change over previous year)

Commodity group	2001	2002	2003	2004	2005	2006	2002–2006[a]
All commodities (in current $) [b]	**-3.6**	**0.8**	**8.1**	**19.4**	**12.2**	**30.4**	**88.8**
All commodities (in SDRs) [b]	**0.2**	**-0.8**	**-0.2**	**13.1**	**12.5**	**30.7**	**66.0**
Food and tropical beverages	**0.4**	**0.4**	**2.3**	**13.2**	**8.8**	**17.8**	**48.4**
Tropical beverages	-20.6	11.7	6.2	6.4	25.5	6.7	51.3
Coffee	-29.0	4.7	8.7	19.8	43.8	7.1	100.6
Cocoa	22.7	63.3	-1.3	-11.8	-0.7	3.5	-10.4
Tea	-20.2	-9.5	8.4	2.1	9.1	11.7	34.9
Food	2.8	-0.5	1.9	13.9	7.2	19.0	48.0
Sugar	5.6	-20.3	2.9	1.1	37.9	49.4	114.5
Beef	10.0	-0.3	0.4	17.8	4.1	-2.4	20.3
Maize	1.1	10.4	6.5	5.0	-12.0	24.4	22.5
Wheat	9.0	16.6	-0.7	6.8	-1.4	26.6	32.3
Rice	-15.3	11.0	4.1	23.1	17.1	5.5	58.3
Bananas	38.8	-9.6	-28.7	39.9	9.9	18.5	29.8
Vegetable oilseeds and oils	**-6.4**	**24.9**	**17.4**	**13.2**	**-9.5**	**5.0**	**26.4**
Soybeans	-7.5	8.6	24.1	16.1	-10.4	-2.2	26.3
Agricultural raw materials	**-3.9**	**-2.4**	**19.8**	**9.9**	**7.2**	**15.0**	**62.3**
Hides and skins	5.5	-2.9	-16.8	-1.7	-2.1	5.1	-15.9
Cotton	-19.0	-3.6	37.2	-3.3	-11.6	5.9	24.2
Tobacco	0.0	-8.2	-3.5	3.6	1.8	6.4	8.2
Rubber	-14.1	33.1	41.7	20.3	15.2	40.4	175.7
Tropical logs	6.4	-10.5	20.1	19.2	0.3	-4.7	36.9
Minerals, ores and metals	**-10.8**	**-2.7**	**12.4**	**40.7**	**26.2**	**60.3**	**219.9**
Aluminium	-6.8	-6.5	6.0	19.8	10.6	35.4	90.4
Phosphate rock	-4.6	-3.3	-5.9	7.8	2.5	5.3	9.5
Iron ore	4.5	-1.1	8.5	17.4	71.5	19.0	160.0
Tin	-17.5	-9.4	20.6	73.8	-13.2	18.9	116.2
Copper	-13.0	-1.2	14.1	61.0	28.4	82.7	331.1
Nickel	-31.2	14.0	42.2	43.6	6.6	64.5	257.9
Tungsten ore	45.5	-41.8	18.0	22.9	120.7	36.2	336.2
Lead	4.9	-4.9	13.8	72.0	10.2	32.0	184.6
Zinc	-21.0	-12.1	5.1	29.1	27.9	136.7	311.1
Gold	-2.9	14.4	17.3	12.6	8.7	35.9	95.0
Crude petroleum	-13.3	2.0	15.8	30.7	41.3	20.4	157.6
Memo item:							
Manufactures [c]	**-2.1**	**0.7**	**9.2**	**8.3**	**2.5**	**3.3**	**25.3**

Figure 1.1

MONTHLY COMMODITY PRICE INDICES BY COMMODITY GROUP, JAN. 1995–APRIL 2007

(Index numbers, 2000 = 100)

All commodities (in current dollars)
Minerals, ores and metals
Crude petroleum, average of Dubai/Brent/Texas, equally weighted

Food
Tropical beverages
Vegetable oilseeds and oils
Agricultural raw materials
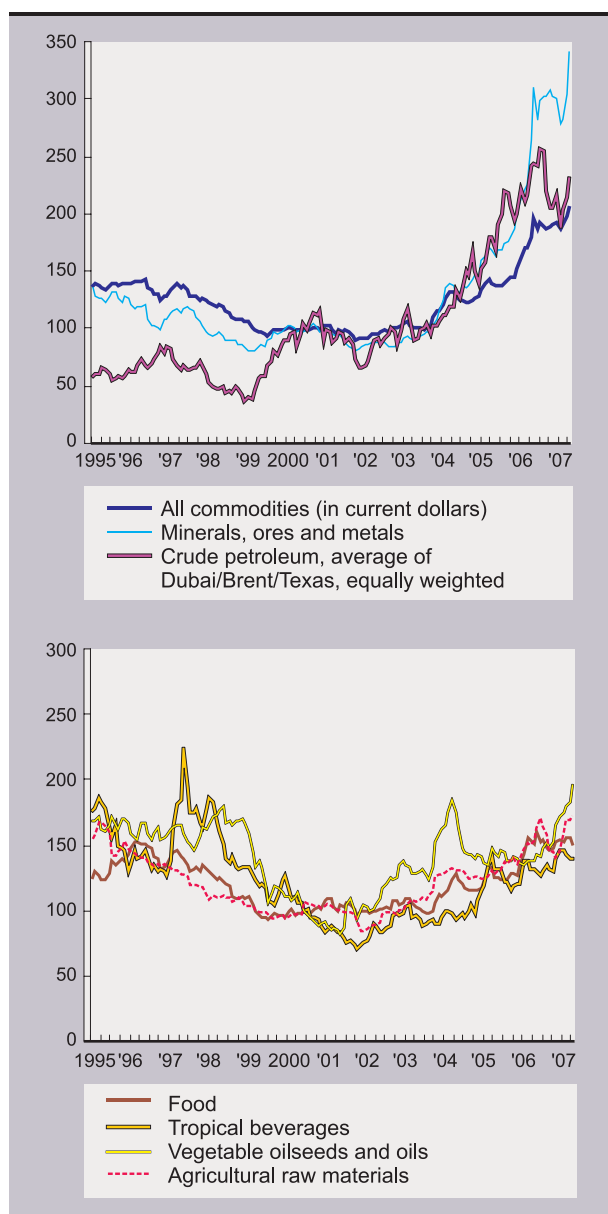
Source: UNCTAD, *Commodity Price Bulletin*, various issues.

their levels of the 1970s and early 1980s. Only the real price for the minerals, ores and metals group has substantially exceeded those levels.

While on average, commodity price indices in 2006 were much higher than those in 2005, a closer analysis of their short-term evolution reveals a volatile pattern throughout the year, with a slowdown, or even a decline in some cases, in the second half of the year and the beginning of 2007 (fig. 1.1). This is related to expectations of slower global economic growth, increased supplies of some commodities, some substitution effects in minerals and metals and energy commodities, a correction in financial markets as a result of the changing behaviour of financial investors in relation to commodities, as well as the strong influence of crude petroleum prices on the prices of many other commodities. According to some analysts, there are indications that commodity prices may have peaked in most cases, which would signify an end to the commodity price boom (Suni, 2007). However, this is still uncertain, as commodity prices have continued to rise since February 2007.

The driving forces behind the commodity price rally in 2006 essentially remained the same as in the previous years of rising prices, although with varying intensity for different commodities. The market fundamentals remained generally tight as a result of strong demand growth and a slow supply response. This resulted in low inventories, particularly for minerals and metals, but also for grains. Apart from the physical market factors, financial investment in commodities was also high in 2006.

The strong demand for commodities stemmed mainly from robust global economic growth, and especially from growth in the United States and the rapidly expanding developing economies, such as China and India. China continued to grow at two-digit rates in 2006 (table 1.1): its industrial production increased by 12.5 per cent (National Bureau of Statistics of China, 2007) and the share of fixed investment in GDP remained above 40 per cent. The dynamic pattern of growth, industrialization and urbanization in China is highly intensive in commodity use. This is leading to increasing South-South trade as China's imports from commodity-exporting developing countries rise. China has also increased its outward FDI in natural resources in developing countries (*World Investment Reports* (*WIR*) *2006* and *2007*). So far, the surge in Chinese demand for commodities has had the greatest impact on the prices of metals and minerals, agricultural raw materials and some food commodities, such as soybeans. The higher prices of other

food products in 2006 may also be partly related to growing demand in China due to gradually changing dietary habits as standards of living improve (*TDR 2005*, chap. II). However, the major factor in the current rise in demand for agricultural commodities, particularly maize and sugar, is the expansion in demand for biofuels, which is closely linked to developments in energy prices.

Supply constraints have been a feature mainly of the minerals and metals market. Investment and capacity growth in this commodity group had been slow for many years due to a long period of low prices in the 1990s. This seems to have been changing since 2002 as a reaction to rising prices, which has led to a substantial increase in expenditures on worldwide exploration. In 2006 these expenditures grew by 47 per cent, reaching their highest level since 1990. However, exploration activity may not have grown at the same rate due to its higher costs (Metals Economics Group, 2007). This, together with the long lead times for production to come on-stream, implies that the supply of metals and minerals has not been able to keep pace with the rapid demand growth. Consequently, inventories shrunk to historically low levels, although some commodities such as copper saw a slight recovery by the end of the year. High prices continue to provide incentives for increased investment in mining. However, the price of some metals declined somewhat in late 2006 and early 2007 as a result of destocking of copper in China – which reduced demand for imports – and an increase in China's supply of zinc and aluminium, of which it is a major world producer. This reflects China's strong influence on commodity markets and prices, both from the demand and the supply side. But the remaining tightness in most minerals and metals markets means that any supply disruption could lead to a dramatic increase in prices, as happened in the case of tin when the Government of Indonesia, which is the largest tin producer in the world, decided to shut down a number of illegal smelting plants. Additionally, in 2006 markets for some agricultural commodities were affected on the supply side by unfavourable weather conditions, such as drought in Australia, which contributed to soaring grain prices, mainly of wheat.

Energy prices, mostly of crude petroleum, have influenced the price trends of many other commodities in recent years. Crude petroleum prices remained high and volatile during 2006, peaking in July–August. Their subsequent decline was related to weather conditions, such as the mild winter in the North and a hurricane season that was less violent than expected, as well as to a relative easing of geopolitical tensions and a build-up of inventories. It may also have been helped by sell-offs of commodity-related assets in financial markets. Moreover, substitution effects from the use of other energy sources in consuming developed countries as a result of the high petroleum prices were partly responsible for the slower average growth of oil prices in 2006. British Petroleum (2007) reports that global oil consumption grew by 0.7 per cent in 2006, which is the weakest growth since 2001. OECD oil consumption declined by 0.9 per cent, but this was more than compensated by a 6.7 per cent growth in Chinese oil consumption. At the same time, global oil production grew by 0.4 per cent. On the whole, even with slower growth in the global demand for oil, market conditions remain tight, with spare capacity of the members of the Organization of the Petroleum Exporting Countries (OPEC) at very low levels. This is making the market vulnerable to a supply disruption, which could drive prices significantly upwards, as witnessed in early 2007 when the decline in crude petroleum prices was reversed after January, due to the cold weather and to moderate production cuts by OPEC countries as a reaction to the previously low demand and to prevent a further drop in the price. Forecasts by the International Energy Agency (IEA, 2007) of rising demand for oil, as well as heightening geopolitical tensions in the Middle East and conflicts in some major oil-producing countries, such as Nigeria, have further contributed to the upward pressure on oil prices.

The current high prices of crude petroleum have led to increased demand and to higher prices of commodities whose market developments are strongly correlated with those of oil. The prices of natural rubber rose sharply, by 40.4 per cent, in 2006 due to higher demand for it as a substitute for the more expensive synthetic rubber produced from oil. As noted earlier, an increasingly important factor driving up the prices of some agricultural commodities is the push in demand for biofuels as an alternative energy source. The strong demand for biofuels has been a response not only to high crude petroleum prices but also to growing

concerns about global climate change. The commodities the most affected by this increase in demand have been sugar and maize, which are used for ethanol production, and vegetable oils for biodiesel. For instance, in 2006, sugar prices increased by 49.4, maize prices by 24.4 per cent and palm oil by 13.3 per cent. Although the expansion of land used for the production of biofuels has increased the supply of agricultural commodities, leading to some easing of prices in early 2007, the outlook is for a continuing and rapid increase in demand for biofuels (European Commission, 2007; FAO, 2007).

In addition to being environmentally friendly in terms of carbon emissions, the production of biofuels may be economically beneficial to developing countries, as it may help reduce their oil import bills and increase their export earnings. It may also offer improved energy security through diversification of energy sources, as well as providing opportunities to diversify agricultural output. This could ultimately give a boost to development in rural areas by increasing rural employment and incomes. In general, developing countries have a competitive advantage in biofuel production. For instance, producing ethanol from sugar cane in Brazil is more efficient in economic and environmental terms than producing it from maize in the United States. However, developed countries are promoting local production and limiting access to their markets through support policies in the form of subsidies for their producers and high import tariff protection. Moreover, concerns have been raised in relation to competing uses of land for the production of food, animal feedstock and biofuels. For instance, increasing the land under maize production in the United States has displaced land for soybeans, the prices of which have been rising sharply since mid-2006, although the yearly average shows a slight decline. This in turn has led to higher prices for animal feedstock and meat. The higher food prices can have dramatic consequences for food-importing developing countries. There are also concerns that the effects on deforestation, water scarcity and biodiversity as a result of bringing increased land under cultivation may offset the environmental benefits of biofuel production. A possible solution may come from obtaining biofuels from tropical plants, such as the jatropha tree, which can grow in degraded land and would therefore not compete with other uses yet have a positive environmental impact (UNCTAD, 2007b; UNCTAD, 2006).[2]

Soaring commodity prices have aroused growing interest in commodities by financial investors, including speculators. Even though the magnitude of investments in commodities as a financial asset is difficult to measure, there are indications that it has been huge in recent years (Doyle, Hill and Jack, 2007). According to Domanski and Heath (2007), commodity markets have become more like financial markets in terms of the motivations and strategies of participants, but the physical characteristics of the markets are still important. An illustration of the growing interest in commodity investment is the volume of commodity futures and options traded globally, which grew faster than in other markets in 2006. The volume of global futures and options in agricultural commodities increased by 28.4 per cent, in energy commodities by 37.8 per cent and in metals by 27.8 per cent. Furthermore, commodity exchanges in China and India are becoming major players in global commodity trade (Burghardt, 2007). Even though interest in commodities as a financial asset remained strong in 2006, there are some indications of a possible change in the attitude of financial investors vis-à-vis commodities, reflected in the market correction of January 2007. As more and more investors have moved into commodities, the incentive for diversifying portfolios (i.e. the negative price correlation of commodities with other financial assets) may be weakening. Typically, commodity markets are in backwardation (i.e. their spot price is higher than the futures contract price), allowing investors to earn a positive roll return when the contract is close to maturity. More recently, some commodity markets have been in contango (i.e. when spot prices are lower than futures prices) leading to negative roll yields on investment. According to media reports, commodity indices have been performing poorly since mid-2006. For instance, the Goldman Sachs Commodity Index and the Reuters/Commodity Research Bureau Commodity Index registered losses of 15.1 and 7.4 per cent, respectively, in 2006 (*Financial Times*, 11 January 2007; *Forbes Magazine*, 29 January 2007). In any case, the increased participation of financial investors in commodity investment has added an element of volatility to commodity markets.

The outlook is for commodity prices to remain high for some years on account of solid demand for commodities in rapidly growing developing countries, even though global economic growth is expected to slow somewhat. But the rates of growth of commodity prices may decelerate as new supplies enter the markets. However there is no clear understanding as to when this might happen, particularly for metals and minerals. Supply response will be much faster for some agricultural commodities, which will also be subject to volatility due to weather conditions. China will continue to play a key role in commodity markets, not only from the demand side but also from the supply side. According to some reports, the Chinese Government might even be considering investing part of its foreign exchange reserves in increasing its strategic commodity reserves (Derrick, 2007). Thus there seems to be a structural change in commodity markets, which indicates that prices are not likely to slump because of supply-side factors. Consequently, commodity prices are likely to remain above the long-run declining trend in real terms, but it would be too optimistic to conclude that there might soon be a reversal of this trend.
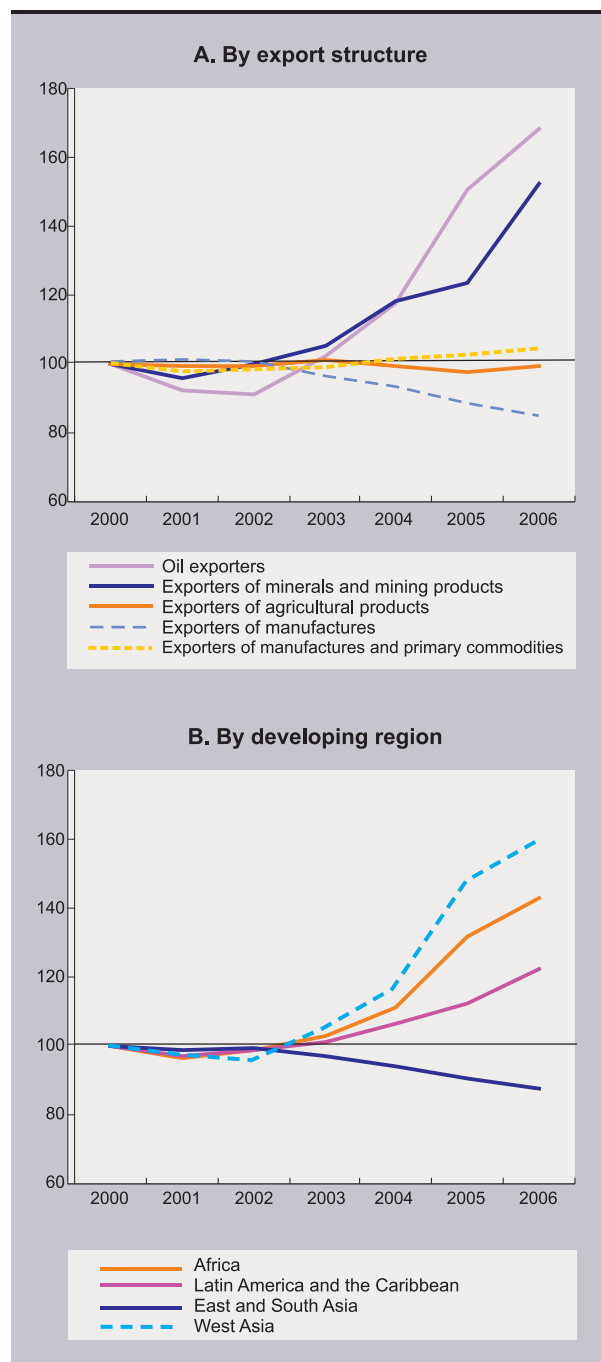
(c)   Evolution of the terms of trade

In 2006, the terms of trade in developing countries followed a similar trend as in previous years (see *TDR 2005*, chap. III, section C, and *TDR 2006*, annex 1 to chap. I). There were significant gains for oil- and mineral-exporting countries, a deterioration in the terms-of-trade for exporters of manufactures, and relative stability for countries with more diversified exports (comprising mainly manufactures but also some primary commodities) and for the exporters of agriculture products (fig. 1.2A). In the latter case, this apparent stability is the result of divergent trends within the group, relating to the evolution of the prices of their export products, but also to the relative weight of oil in their imports. Among this group, those that have been the most vulnerable from terms-of-trade changes have been the oil-importing countries whose exports are concentrated in a few primary commodities that are subject to price volatility. The other group of developing countries affected by changes in the terms of trade (i.e. the exporters of manufactures) were able, in gen-

Figure 1.2

NET BARTER TERMS OF TRADE, SELECTED DEVELOPING COUNTRIES, 2000–2006

(Index numbers, 2000 = 100)

A. By export structure

Oil exporters
Exporters of minerals and mining products
Exporters of agricultural products
Exporters of manufactures
Exporters of manufactures and primary commodities

B. By developing region

Africa
Latin America and the Caribbean
East and South Asia
West Asia

Source: UNCTAD secretariat calculations, based on UN COMTRADE; United States Department of Labor, Bureau of Labor Statistics, *Import/Export Price Indexes* database *(www.bls.gov/mxp/home.htm);* Japan Customs, *Trade Statistics* database *(www.customs.go.jp);* IMF, *International Financial Statistics* database; UNCTAD, *Commodity Prices Bulletin*, various issues; and ECLAC, *Balance of Payments Statistics* database.

Table 1.5

IMPACT OF CHANGES IN TERMS OF TRADE AND NET INCOME PAYMENTS ON NATIONAL DISPOSABLE INCOME IN SELECTED DEVELOPING-COUNTRY GROUPS, AVERAGE FOR 2004–2006

(Per cent of GDP)

	Effects from changes in terms of trade	*Effects from changes in net income payments*	*Net impact*
Africa	1.9	-1.0	0.9
Latin America	2.1	-0.7	1.4
East and South Asia	-1.5	-0.2	-1.7
West Asia	4.9	0.2	5.1
Exporters of manufactures	-1.2	-0.1	-1.2
Oil exporters	7.3	-0.2	7.0
Exporters of minerals and mining products	5.7	-4.6	1.2
Other commodity exporters	-0.2	-0.1	-0.3

Source: UNCTAD secretariat calculations, based on United Nations Statistics Division, *United Nations Common Database* (UNCDB); IMF, *Balance of Payments Statistics* database; ECLAC, *Balance of Payments Statistics* database; national sources; and UNCTAD estimates of unit value and volume of exports and imports.

Note: For an explanation of net income payments, see text.

tral American and Caribbean countries suffered losses. In Africa, the terms of trade improved particularly in the oil-rich sub-regions (North Africa, West Africa and Middle Africa), while countries in Eastern and Southern Africa showed mixed results; and in West Asia, there were wide differences between the oil and gas exporters of the Gulf States and those exporting mainly manufactures, such as Jordan and Turkey (fig. 1.2).

The economic impact of changes in the terms of trade depends on several factors. One is the degree of openness of the economy: in a very closed economy, wide changes in unit prices of exports and imports will have little real effects, but in more open economies, changes in the terms of trade may represent fairly significant gains or losses of real domestic income as a percentage of GDP. Table 1.5 presents an estimate of the impact of changes in the terms of trade of different groups of developing countries, by region and export structure. Between 2004 and 2006 income gains from the changes in the terms of trade have been extremely high in oil- and mineral-exporting countries, exceeding 7 and 5 percentage points of GDP per year, respectively, while exporters of manufactures suffered losses close to one percentage point of GDP on average. Other commodity exporters showed, on average, no gains or losses. In aggregate, all the developing regions gained, with the exception of East, South and South-East Asia.

eral, to compensate for loss due to price changes by expanding their volume of export.

These trends are reflected in the different developing regions: East, South and South-East Asia (where manufactures constitute the largest share of exports) saw a further deterioration in their terms of trade; West Asia and Africa experienced sharp increases (mainly in the oil exporting countries of those regions); and Latin America and the Caribbean recorded moderate but still significant gains. These aggregate outcomes conceal wide differences within each group: in developing America most South American countries posted gains in their terms of trade, while several Cen-

In some cases, however, windfall gains from the terms of trade may have been offset by increased profit remittances by TNCs involved in the exploitation of natural resources. In those cases, the gross *national* income will have grown at a lower rate than the gross *domestic* income. This has been the case in Africa and Latin America, particularly in countries where foreign companies account for a large proportion of their export-oriented production, and where the taxation system is extremely favourable to private firms in the extractive industries. As shown in table 1.5, higher net income payments to non-residents drained most of the terms-of-trade-related income gains of mineral exporters between 2004 and 2006.

B. Global imbalances and destabilizing speculation

As extensively discussed in past *Trade and Development Reports* (*TDRs 2004*, *2005* and *2006*), global imbalances have become a major source of systemic risk to the global economy. They can have adverse repercussions in the short and long term on both surplus and deficit economies due to the potentially disruptive effect of a sudden adjustment. As in past financial crises, the growing financial fragility induced by some types of capital inflows, associated with current-account deficits and the threat of an overshooting devaluation, may force deficit economies into contraction, which may spill over to trading partners.

However, the number of emerging-market economies with current account deficits is rather small this time and the weight of those countries in the world economy is rather light. Nevertheless, there are some spots where risks of a crisis are high like in Eastern Europe and in some transition countries in Asia. Despite the diversity of the sources of imbalance, the existence of weak financial systems, institutions and regulations are mentioned frequently; the determinants of overall competitiveness, such as wage growth overshooting productivity growth by a wide margin and movements of the nominal exchange rate play the most important role in triggering speculative capital flows.

National and international policies need to address the major sources of imbalance by providing an institutional framework that would reduce the potential for speculative flows and promote coordinated efforts for exchange-rate adjustment and stable and competitive real exchange rates for developing countries.

1. Widening global imbalances

The sources, sustainability and possible adjustment mechanisms of the widening external imbalances have been the object of one of the liveliest and most controversial economic policy debates of the past couple of decades. Obviously, trade flows are not "imbalanced" per se if the in- and outflows to and from a country vis-à-vis the rest of the world do not offset each other within a given period. For some observers the fact that imbalances correspond to a real transfer of resources from surplus countries to deficit countries, is just a natural and harmless implication of an increasingly integrated global economy. That is why the Council of Economic Advisors called the United States current account deficit a "capital import surplus" (*TDR 2006*: 9).

However, the actual pattern and level of the imbalances are a source of concern for those who believe that the size of any transfer of resources should remain within the expected long-run capacity to pay interest and the principal (*TDR 2006*; UN-DESA/UNCTAD, 2007). In fact, the size and direction of net capital flows for many years following the shocks of the deep financial crises in Asia, Latin America and some transition economies, tend to support the belief that there is a problem with the global imbalance adjustment mechanism. Among those sharing this view, is a perception that an adjustment is imminent and can be either "soft" (i.e. with a smooth, policy-induced correction) or "hard" (i.e. with a painful contraction and crisis in deficit countries and major adverse repercussions on surplus countries).

Nonetheless, there is an almost universally shared belief that changes in the overall competitiveness of an economy can be a decisive factor in reversing the sign of its trade balance. Indeed, large corrections of deficits are usually observed to go hand in hand with huge devaluations of the nominal and real exchange rate, and empirical evidence has shown that changes in the real effective exchange rate (REER) – the most comprehensive measure of the overall competitiveness of nations (*TDR 2004*) – have the potential to reduce deficits or to induce swings in the trade and current account from deficit to surplus (IMF, 2007; Deutsche Bundesbank, 2007).[3]

A depreciation of the real exchange rate, more than anything else, induces an "expenditure switch" from demand for foreign goods to demand for domestic goods, which is reflected in an improvement in the trade balance, and vice versa in the case of an appreciation. The swing from deficit to surplus in many crisis-stricken countries in Asia and Latin America was associated with huge devaluations of their currencies and large gains in competitiveness for their economies as a whole. This nexus between the exchange rate and trade flows is also acknowledged by those who believe that if the Chinese currency, the renminbi, were allowed to float freely, it would reduce the biggest surplus in the world and the biggest deficit at the same time.

Given this, few would question that a large or even rising current account deficit accompanied by a real appreciation and a loss in overall competitiveness is a much stronger indicator for non-sustainability than a deficit without this. The other way round in surplus countries: Their currencies should be candidates for an appreciation in real terms and not depreciate. If the most important price for exports and imports, the real exchange rate, consistently moves into the "wrong" direction, there is hardly an easy way out of a protracted imbalance. In other words, such "false" price movements have to be avoided at all costs to allow the world economy to smoothly correct its global imbalances.[4]

But this "false pricing" is exactly what happens in many regions of the world. Looking roughly at the time pattern of the ratio of the current-account to GDP and the REER for some selected economies reveals "false pricing" to be a rather common phenomenon (table 1.6). Economies are grouped according to the size of their current-account surplus or deficit. Countries with a large surplus include oil exporters such as the Russian Federation and Saudi Arabia, and exporters of manufactures, such as China, Germany, Japan, Malaysia and Switzerland. Many East Asian and Latin American emerging market economies enjoy a small surplus, while members of the euro area, Mexico and Colombia register a slight deficit. Significant and persistent deficits are observable in South Africa, Turkey, Australia and New Zealand as well as Hungary and other East European oil importing countries. The United States current account reached a record deficit of 6.6 per cent of its GDP in 2006, or more than $850 billion.[5]

Table 1.6 also shows the paradox of false pricing for a number of surplus economies with officially floating exchange rates: Japan had a significant real depreciation, while it was smaller for Germany and Switzerland. China, the country most under political pressure to float its currency, shows a much stronger tendency towards appreciation than the free floaters. Under a floating regime and high mobility (and low regulation) of capital, the nominal and real exchange rates can move in the wrong direction from a balance-of-payments point of view, thereby hindering the adjustment process and making the constellation of deficits and surpluses unsustainable.

This suggests that a shift to floating and capital openness may not provide a solution to the global imbalances, and, more generally, raises questions about the role of the financial system in the determination of capital flows, nominal and real exchange rates and real imbalances. Indeed, various forms of domestic and international financial speculation have been associated with episodes of consumption booms, current-account deficits and overvalued currencies. If speculation is an important source of real exchange rate misalignments and of persistent diverging patterns of global real balances, domestic and international regulations and policies have to provide the conditions for generating converging patterns of trade balances and a coherent adjustment of the imbalances.

The following section describes how speculative capital flows, concomitant false pricing and

the resulting misalignments are induced by short-term interest rate differentials and floating currencies in perfectly open markets. In light of the evidence, both policy targets for exchange rates and a new assignment of monetary and non-monetary instruments at the national level need to be reconsidered.

2. Speculative flows induced by "carry trade"

In the past couple of years a widespread and persistent speculative phenomenon involving currencies of developed and developing countries with large short-term interest rate differentials has drawn considerable attention from the media and financial analysts as well as concerns by central bankers. "Carry trade" has become a catchphrase to define the specific financial operation of borrowing and selling a low-yielding currency to buy and lend in a high-yielding currency. For example, an established speculator such as a hedge fund might borrow 12,000 yen in Japan and buy $100 in the United States, invest this amount in United States bonds and obtain an interest revenue equal to the difference between the borrowing rate in Japan, say 0.25 per cent, and the higher lending rate in the United States, say 5 per cent. Exchange-rate changes between the time of borrowing and paying back the funding currency can add to the gains, or induce smaller gains or even losses. But with stable exchange rates, the *interest rate gain* amounts to 4.75 per cent. However, both gains and losses are largely magnified by high leverage ratios, since traders typically use huge amounts of borrowed funds and very little equity. For instance, owning a capital of $10 and borrowing 10 times the equivalent of that value in yen, the leverage factor of 10 leads to a net interest return on equity of 47.5 per cent.

This simple and hardly new form of speculation may appear too straightforward to be possible in highly developed and integrated capital markets, yet it has represented a substantial source of profits, inducing huge amounts of capital flows and pressure on exchange rates since the collapse of the Bretton Woods system in the early 1970s. It has gained a new quantitative dimension, since

more or less unregulated funds have virtually unlimited access to massive pools of capital from pension funds or wealthy citizens.

Carry trade is fundamentally based on the expectation that, given a sufficiently large interest rate differential between the borrowing and the lending currency – which is quasi fixed by monetary policies in both countries – the exchange rate will either remain stable or move in a favourable direction, or allow a major withdrawal from the currency before profits are fully eroded. On the other hand, in today's markets, the volume of speculative flows stemming from these funds is so large that they have a direct effect on the exchange rate, thereby creating a self-fulfilling expectation of profit in excess of the interest rate differential. In the example cited above, a devaluation of the yen and a revaluation of the dollar induced by carry trade would increase the net return on equity well beyond 47.5 per cent.

This implies that national policies aimed at fighting domestic inflation by rising interest rates may end up providing strong incentives to this kind of speculation if other countries have different inflation and interest rates. The ensuing over- or undervaluation may offset or magnify the effects of the desired monetary policies, generating financial fragility and huge real adjustment costs to the national economy and the global economic system. The fundamental mechanism of real-exchange-rate adjustment that, according to widespread political expectations, would allow a smooth correction of the imbalances would be undermined. Flows moving from low-yielding, low-inflation countries to high-yielding, high-inflation countries would cause the currencies of the latter to appreciate, and provoke the paradoxical and dangerous combination of surplus economies experiencing pressures to depreciate, and deficit countries facing a similar pressure to appreciate.

Carry trade has recently involved mostly high- and medium-income economies such as Australia, Iceland, Japan, New Zealand, Switzerland and the United States, and a few emerging market economies such as Brazil and Turkey, as well as some Central and Eastern European economies such as Hungary, Romania, Bulgaria and the Baltic States. Over the past two years, yen- and Swiss franc-funded carry trade operations appeared to be re-

Table 1.6

**REAL EFFECTIVE EXCHANGE RATE (1996 = 100) AND CURRENT-ACCOUNT (C/A) BALANCE,
SELECTED ECONOMIES, 1996–2006**

Economy	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
					Economies with current-account surplus						
Economies with large current-account surplus											
China											
REER	100.0	106.8	112.4	106.3	109.2	114.6	111.9	106.6	105.1	107.5	109.9
C/A balance ($ billion)	7.2	34.4	31.6	15.7	20.5	17.4	35.4	45.9	68.7	160.8	238.5
C/A balance as per cent of GDP	0.8	3.6	3.1	1.4	1.7	1.3	2.4	2.8	3.6	7.2	10.3
Japan											
REER	100.0	94.6	94.8	103.8	107.4	96.3	90.0	89.1	89.4	84.7	78.7
C/A balance ($ billion)	65.7	96.6	119.1	114.5	119.6	87.8	112.6	136.2	172.1	165.7	170.5
C/A balance as per cent of GDP	1.4	2.3	3.1	2.6	2.6	2.1	2.9	3.2	3.8	3.6	3.9
Germany											
REER	100.0	94.1	94.1	91.1	84.8	84.8	85.6	90.1	91.3	90.7	90.5
C/A balance ($ billion)	-14.0	-10.0	-16.3	-26.9	-32.6	0.4	41.0	45.6	117.9	129.0	147.0
C/A balance as per cent of GDP	-0.6	-0.5	-0.7	-1.3	-1.7	0.0	2.0	1.9	4.3	4.6	5.1
Russian Federation											
REER	100.0	109.0	96.2	63.4	70.7	85.3	89.3	92.3	99.1	109.0	119.8
C/A balance ($ billion)	10.8	-0.1	0.2	24.6	46.8	33.9	29.1	35.4	58.6	83.6	94.5
C/A balance as per cent of GDP	2.8	-0.0	0.1	12.6	18.0	11.1	8.4	8.2	9.9	10.9	9.6
Saudi Arabia											
REER	100.0	106.2	112.9	109.8	110.6	114.5	113.0	104.3	97.0	94.2	93.1
C/A balance ($ billion)	0.7	0.3	-13.1	0.4	14.3	9.4	11.9	28.1	52.0	90.8	95.5
C/A balance as per cent of GDP	0.4	0.2	-9.0	0.3	7.6	5.1	6.3	13.1	20.7	29.3	27.0
Switzerland											
REER	100.0	92.2	96.1	96.0	89.7	92.6	98.1	99.7	97.7	94.1	89.9
C/A balance ($ billion)	22.0	25.5	26.1	29.4	30.7	20.0	23.0	43.0	50.5	61.0	63.5
C/A balance as per cent of GDP	7.3	9.7	9.7	11.1	12.4	8.0	8.3	13.3	14.1	16.5	16.8
Malaysia											
REER	100.0	96.8	79.7	78.9	79.3	83.3	83.2	79.6	76.4	75.5	75.5
C/A balance ($ billion)	-4.5	-5.9	9.5	12.6	8.5	7.3	8.0	13.2	14.9	19.9	25.6
C/A balance as per cent of GDP	-4.4	-5.9	13.2	15.9	9.4	8.3	8.4	12.7	12.6	15.2	16.9
Economies with small current-account surplus											
Brazil											
REER	100.0	105.0	104.8	78.3	93.0	83.9	83.6	91.4	98.5	120.1	130.4
C/A balance ($ billion)	-23.5	-30.5	-33.4	-25.3	-24.2	-23.2	-7.6	4.2	11.7	14.2	13.3
C/A balance as per cent of GDP	-3.0	-3.8	-4.2	-4.7	-4.0	-4.5	-1.7	0.8	1.9	1.8	1.2
Republic of Korea											
REER	100.0	93.0	74.2	82.9	88.5	79.9	82.5	82.1	84.5	93.2	99.2
C/A balance ($ billion)	-23.1	-8.3	40.4	24.5	12.3	8.0	5.4	11.9	28.2	16.6	6.1
C/A balance as per cent of GDP	-4.1	-1.6	11.7	5.5	2.4	1.7	1.0	2.0	4.1	2.1	0.7
Chile											
REER	100.0	104.4	100.6	97.9	102.6	97.0	95.3	94.1	102.4	111.3	119.0
C/A balance ($ billion)	-3.1	-3.7	-3.9	0.1	-0.9	-1.1	-0.6	-1.0	1.6	1.3	5.3
C/A balance as per cent of GDP	-4.1	-4.4	-5.0	0.1	-1.2	-1.6	-0.9	-1.3	1.7	1.2	3.9
Argentina											
REER	100.0	104.9	107.9	114.0	111.8	117.3	63.8	69.9	68.2	67.5	65.6
C/A balance ($ billion)	-6.8	-12.1	-14.5	-11.9	-9.0	-3.3	8.7	8.0	3.3	5.6	8.0
C/A balance as per cent of GDP	-2.5	-4.1	-4.8	-4.2	-3.2	-1.2	8.9	6.3	2.2	3.1	3.7
Indonesia											
REER	100.0	92.9	48.5	74.5	71.9	69.2	83.4	88.3	82.0	82.9	102.2
C/A balance ($ billion)	-7.3	-3.8	4.0	5.8	8.0	6.9	7.8	8.1	1.6	0.9	9.7
C/A balance as per cent of GDP	-2.9	-1.6	3.8	3.7	4.8	4.3	4.0	3.5	0.6	0.3	2.7

Table 1.6 (concluded)

REAL EFFECTIVE EXCHANGE RATE (1996 = 100) AND CURRENT-ACCOUNT (C/A) BALANCE, SELECTED ECONOMIES, 1996–2006

Economy	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
					Economies with current-account deficit						
Economies with small current-account deficit											
Mexico											
REER	100.0	113.5	114.4	125.0	138.1	145.9	147.1	136.8	135.7	142.5	146.4
C/A balance ($ billion)	-2.5	-7.7	-16.0	-13.9	-18.7	-17.7	-13.5	-8.6	-6.6	-4.8	-1.9
C/A balance as per cent of GDP	-0.8	-1.9	-3.8	-2.9	-3.2	-2.8	-2.1	-1.4	-1.0	-0.6	-0.2
Colombia											
REER	100.0	106.4	99.8	90.6	83.1	80.5	79.1	70.5	77.1	87.5	86.1
C/A balance ($ billion)	-4.6	-5.8	-4.9	0.7	0.8	-1.1	-1.4	-1.0	-0.9	-1.9	-2.9
C/A balance as per cent of GDP	-4.8	-5.4	-4.9	0.8	0.9	-1.3	-1.7	-1.2	-0.9	-1.6	-2.2
Euro area											
REER	100.0	91.4	93.7	91.0	83.6	84.8	87.9	97.9	101.5	100.6	101.3
C/A balance ($ billion)	..	56.9	23.0	-34.0	-91.7	-19.3	50.3	36.6	61.8	-28.8	-20.1
C/A balance as per cent of GDP	..	0.9	0.3	-0.5	-1.5	-0.3	0.7	0.4	0.6	-0.3	-0.2
Economies with large current-account deficit											
Hungary											
REER	100.0	108.3	108.8	106.5	106.0	113.0	119.4	121.6	125.5	125.9	122.0
C/A balance ($ billion)	-1.8	-2.0	-3.4	-3.8	-4.0	-3.2	-4.6	-7.2	-8.7	-8.1	-6.2
C/A balance as per cent of GDP	-3.9	-4.5	-7.2	-7.8	-8.5	-6.1	-7.1	-8.7	-8.6	-7.4	-5.6
New Zealand											
REER	100.0	102.0	90.4	86.8	78.0	77.4	86.7	101.7	109.6	115.2	105.9
C/A balance ($ billion)	-3.9	-4.3	-2.1	-3.5	-2.7	-1.4	-2.4	-3.4	-6.5	-9.6	-9.4
C/A balance as per cent of GDP	-5.8	-6.4	-3.9	-6.2	-5.2	-2.8	-4.1	-4.3	-6.7	-8.9	-9.0
South Africa											
REER	100.0	105.7	95.8	92.0	90.6	82.2	73.4	97.6	106.6	107.5	101.5
C/A balance ($ billion)	-1.7	-2.2	-2.4	-0.7	-0.2	0.1	0.7	-2.2	-7.4	-10.1	-16.3
C/A balance as per cent of GDP	-1.2	-1.5	-1.8	-0.5	-0.1	0.1	0.6	-1.3	-3.4	-4.2	-6.5
India											
REER	100.0	104.3	99.5	99.4	101.2	103.5	99.9	99.5	100.5	103.7	100.4
C/A balance ($ billion)	-6.0	-3.0	-6.9	-3.2	-4.6	1.4	7.1	8.8	0.8	-6.9	-19.3
C/A balance as per cent of GDP	-1.6	-0.7	-1.7	-0.7	-1.0	0.3	1.4	1.5	0.1	-0.9	-2.1
Turkey											
REER	100.0	101.1	101.1	99.4	107.8	96.0	108.8	118.6	124.6	132.7	128.9
C/A balance ($ billion)	-2.1	-2.1	2.0	-1.3	-9.8	3.4	-1.5	-8.0	-15.6	-23.1	-31.5
C/A balance as per cent of GDP	-1.2	-1.1	1.0	-0.7	-5.0	2.4	-0.8	-3.3	-5.2	-6.4	-8.0
Australia											
REER	100.0	104.0	96.8	97.6	93.5	89.1	92.7	103.2	112.7	119.0	123.6
C/A balance ($ billion)	-15.7	-12.4	-18.4	-22.4	-15.2	-7.7	-16.2	-29.5	-40.1	-42.2	-40.6
C/A balance as per cent of GDP	-3.8	-3.0	-4.9	-5.6	-3.9	-2.1	-3.9	-5.6	-6.3	-6.0	-5.4
United Kingdom											
REER	100.0	114.1	119.0	117.0	114.7	111.5	112.7	109.6	114.5	111.7	111.4
C/A balance ($ billion)	-10.5	-1.4	-5.3	-35.1	-37.6	-31.5	-24.8	-24.4	-35.4	-48.3	-80.0
C/A balance as per cent of GDP	-0.9	-0.1	-0.4	-2.4	-2.6	-2.2	-1.6	-1.3	-1.6	-2.2	-3.5
United States											
REER	100.0	104.5	113.7	113.8	115.0	122.0	122.0	112.7	105.8	102.9	99.8
C/A balance ($ billion)	-124.8	-140.4	-213.5	-299.8	-415.2	-389.0	-472.4	-527.5	-665.3	-791.5	-869.1
C/A balance as per cent of GDP	-1.6	-1.7	-2.4	-3.2	-4.2	-3.8	-4.5	-4.8	-5.7	-6.4	-6.6
EU – Central and Eastern Europe[a]											
REER	100.0	104.4	110.6	106.1	111.0	119.5	122.1	121.0	125.9	136.2	142.6
C/A balance ($ billion)	-14.4	-16.6	-18.6	-22.3	-20.3	-16.7	-18.5	-23.8	-37.5	-31.3	-38.8
C/A balance as per cent of GDP	-4.1	-4.7	-4.9	-6.0	-5.5	-4.1	-4.1	-4.4	-5.8	-4.1	-4.7

Source: UNCTAD secretariat calculations, based on IMF, *Balance of Payment Statistics;* and *International Financial Statistics* databases; and JP Morgan through Thomson Financial DataStream database.

   a Czech Republic, Estonia, Hungary, Lithuania, Poland, Romania, Slovakia and Slovenia.

sponsible for the large volatility and gyrations of some of the high-yielding currencies, such as the New Zealand and Australian dollars, the Hungarian forint and the Icelandic krona. The latter experienced typical crisis symptoms: prolonged periods of steady appreciation and capital inflows, disrupted by shorter periods of sharp devaluations as carry traders unwound their positions. This happened in Iceland, for example, between March and May 2005, February and April 2006, November 2006 and January 2007. Other countries, such as Brazil, have experienced a steady appreciation of their currencies in the last few years despite fairly high inflation rates.

According to the Bank for International Settlements (BIS, 2007), hedge funds have been the main players and the main beneficiaries of trades using the yen and Swiss franc as funding currencies for buying assets in some of the countries mentioned above. A comparison of carry-to-risk ratios (the three-month interest rate differential divided by the implied volatility of the currency option) provides further evidence that there is a clear tendency for the currencies of some developing countries like the Brazilian real and the Turkish lira to become increasingly more attractive than traditional carry trade targets such as the Australian and New Zealand dollars and the pound sterling. However, speculative flows are difficult to identify and monitor. As noted in the BIS study, measuring the volume of carry trade is problematic because of lack of data and the variety of forms that these flows can take.

The specific episodes of carry trade deserve attention as warning signals that even financially developed medium- to high-income countries are not immune to destabilizing capital flows. Besides that, the phenomenon may be regarded as a "species" of the broader "genus" of potentially destabilizing speculative capital-account operations; it displays numerous similarities with the mechanisms that caused financial fragility in many emerging markets, leading thereafter to currency and financial crises in the mid-1990s. The more general mechanisms of destabilizing speculation, on the other hand, may easily involve emerging markets and small, open developing economies that have access to capital markets and adopt different monetary policies due to differing inflation histories.

While such speculative operations naturally involve a currency risk for speculators, that can be attenuated by diversifying the portfolio of high-yielding currencies, the risk for both the funding and lending currencies cannot be diversified, and can therefore become a source of "systemic risk", spilling over from the financial system to the real economy. The web of different funding and lending currencies of otherwise unrelated economies causes the countries involved to become interdependent and subject to reversals of perceptions and to contagion effects.

Contagion spreads due to speculators' profit maximization motives: unwinding of positions in one country affects all the web-related economies. Such unwinding may be triggered by "conventional focal points" such as the external balance or growth, or the inflation prospects of the funding currency causing fear of an interest rate correction and an exchange-rate jump. For instance, it has been debated as to whether the speculative run on the Icelandic krona was triggered by the perceived non-sustainability of the huge current-account deficit, by a downgrade from some rating agency, or even by a piece of "good news" related to the funding currency, such as an improvement in the Japanese economy which had the potential of leading to an interest rate increase and an appreciation of the yen. Undoubtedly, the carry trade unwinding from the krona had a significant impact not only on the Icelandic financial and credit system, but also on some third parties involved, namely some emerging markets, as traders needed to cash in some of their earnings from well-performing currencies to cover some of their losses from the krona trade.

Figure 1.3 shows past carry trade potentials driven by the nominal exchange-rate dynamics and interest rate differentials between the dollar and the yen (left chart) and between the dollar and Swiss franc (right chart). The red line represents the 3-month interest rate differential between the dollar- and yen- or Swiss franc-denominated assets; the blue line is the exchange-rate change of the dollar vis-à-vis the yen and the Swiss franc, while their sum (the shaded area) is the return on a 3-month (uncovered) lending in the United States by borrowing in Japan or Switzerland in local currencies. Since this return carries the risk of exchange-rate changes, it is hereafter called "uncovered interest return" (UIR).

Figure 1.3

**CARRY TRADE OPPORTUNITIES OF THE YEN AND SWISS FRANC
VIS-À-VIS THE DOLLAR, 2005–2006**
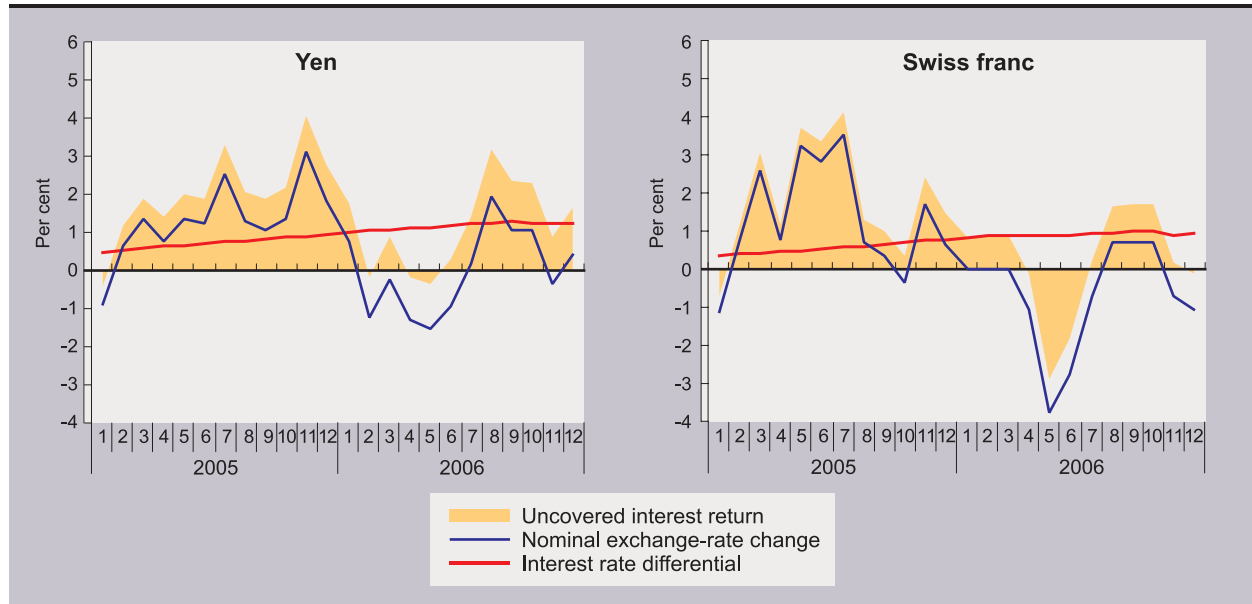
Source: UNCTAD secretariat calculations, based on IMF, *International Financial Statistics* database; and national sources.
Note: For an explanation of how the uncovered interest return is calculated, see text. A positive change in the exchange rate signifies an appreciation of the currency concerned.

While uncovered gains and losses can be significant, their volatility depends entirely on fluctuations in the nominal exchange rate. Periods of relative stability and large interest rate differentials provide a strong incentive to traders, as in 2005 and mid-2006. During that period the dollar appreciated vis-à-vis the two funding currencies, despite high and rising current-account deficits and higher inflation rates in the United States than in Japan or Switzerland. On the other hand, sudden exchange-rate reversals, as in early 2006, can trigger a large unwinding of investments and this can spill over to emerging market economies.

Indeed, the dollar itself has been the target of "yen carry traders" and, to a lesser extent, of traders borrowing in Swiss francs, at least in the past couple of years. But the uncovered interest rate return potentials of yen and Swiss francs to the dollar have been low compared to uncovered returns plus real appreciation in a number of developing and transition economies in relation to the dollar.

In figure 1.4 (see also fig. 1.A1 of the statistical annex to this chapter), the short-term speculative potentials defined as above (right charts) are shown together with the inflation differential and the real exchange rate dynamics (left charts). In the charts on the left, the green line represents the inflation rate differential between the selected economy and the United States, while the shaded area is the change in the real exchange rate, that is, the sum of the inflation rate differential and the change in the nominal exchange rate vis-à-vis the dollar (blue line in the right charts). An index of the real exchange rate is plotted on the left panel (blue dashes) and measured on the right vertical axis.[6] Using the dollar as a reference for comparison between the countries' trends and the rest of the world, it is possible to estimate the potentials of yen-funded and Swiss franc-funded carry trade by combining the latter figures with figure 1.3.

The examples of Brazil, Turkey and China show how alternative exchange-rate regimes and their differing monetary policies generate vary-

Figure 1.4

UNCOVERED INTEREST RETURNS, EXCHANGE-RATE CHANGES, INFLATION AND INTEREST RATE DIFFERENTIALS, SELECTED COUNTRIES, 1995–2006

Brazil

Turkey

China

Real exchange-rate change
Inflation rate differential
Real exchange-rate trend (right scale)

Uncovered interest return
Interest rate differential
Nominal exchange-rate change
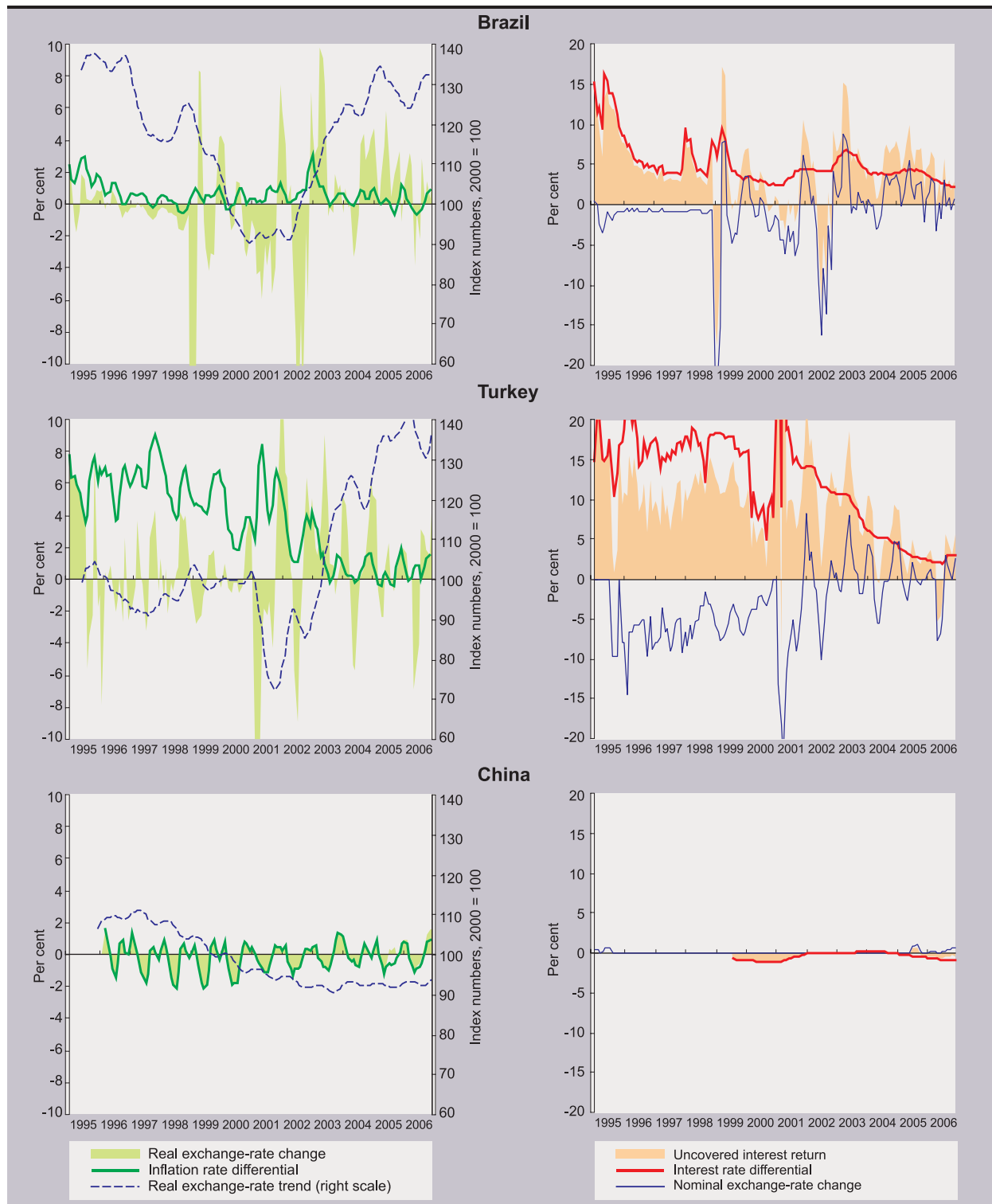
Source: UNCTAD secretariat calculations, based on IMF, *International Financial Statistics* database; and national sources.
Note: A positive change in the exchange rate indicates an appreciation of the currency concerned. Real exchange-rate trend is a 6-month moving average. For an explanation of differentials, see text.

ing degrees of speculative opportunities for the international capital markets; they also show how much real appreciation (with a loss of overall competitiveness for a nation) can result from speculation that is driven by interest rate differentials. Pre-crisis Brazil was characterized by an overvalued real exchange rate, large interest rate differentials (aimed at maintaining capital inflows in a condition of financial fragility) and unsustainable costs for the real economy. Despite the slight real depreciation of the Brazilian real due to a crawling peg exchange rate, the 1999 crisis forced a large nominal depreciation and led to an interest rate hike. The post-crisis change in the monetary regime included official floating of the exchange rate and implementation of an inflation-targeting monetary policy (Barbosa, 2006). Despite relatively high inflation rates (compared to international trends), there has been a tendency in Brazil towards nominal and real appreciation since late 2002, induced by short-term capital inflows. In 2006, the real exchange rate had nearly returned to its 1996 level. Large interest rate differentials aimed at curbing inflation offered considerable potential gains for short-term speculation; indeed, they were comparable in size to those of the pre-1999 monetary regime.

Turkey provides an example of frequent changes in the monetary regime, resulting in large and volatile nominal exchange-rate changes and significant real appreciation (mostly induced by large inflation rate differentials), and consistently associated with large uncovered returns on short-term capital (generated by the large interest rate differentials). Financial turbulence struck the country in 1999 and culminated in November 2000. Despite considerable financial assistance by the International Monetary Fund (IMF) since December 1999 and substantial inflows of portfolio capital, the financial situation once again became unsustainable in February 2001. GDP contracted by 5 per cent in 1999, grew by 7 per cent in 2000 and ended up with a fall of 7.4 per cent in 2001, displaying an extreme kind of boom and bust. The central bank officially gave up control of the exchange rate and, since November 2002, the post-crisis IMF stabilization programme has been officially based on two pillars of financial restraint: a primary surplus target for fiscal deficits and an inflation-targeting framework for monetary policy. However, this again has resulted in a strong

tendency towards real appreciation and large uncovered interest returns. Only recently has the country managed to significantly reduce the interest rate differential, which fell below 3 per cent between July 2005 and March 2006. But with a very high real exchange rate and widening current-account deficits, the value of the currency fell at the end of 2006, preceded by significant capital outflows. Turkey's frequent boom-bust cycles are clearly driven by the effects of potential and actual short-term capital flows (Telli, Voyvoda and Yeldan, 2007).

By contrast, China's exchange rate, capital market and monetary regimes have been extremely stable over a long period of time. A strictly pegged nominal exchange rate, low inflation and low interest rates have led to expectations of stability by investors in fixed capital, and have not attracted this kind of short-term capital speculators. In particular, due to low nominal and real interest rates, short-term returns have been nil or negative, and have discouraged speculative capital flows of the carry trade type. A slight and consistent tendency towards real depreciation vis-à-vis the dollar has only recently levelled off following some inflationary pressures between 2003 and 2004 and the authorities' decision to allow a moderate nominal appreciation in 2005 and 2006.

In the past, in many cases managed depreciation or pegging of exchange rates, associated with large interest rate and inflation rate differentials, have led to real appreciation and the loss of competitiveness, and have offered opportunities for speculation. This occurred to a large extent in pre-crisis Brazil, Thailand, the Republic of Korea and the Russian Federation in the 1990s.

Unfortunately, the regime switch to floating and inflation targeting improved the situation only in those countries that were able to consistently reduce their interest rate differential against the United States. In many other cases, despite slightly lower inflation and interest rate differentials, the tendency towards real appreciation continued unabated. Moreover, the opportunities for international speculation, though subject to larger exchange-rate risk, have not faded; instead, they remain a major source of instability and risk. Short-term interest rates, as the main instrument to combat inflation, have generated new opportunities for large-scale

speculation on the currency market. The real costs for the economies will be very high if the restrictive effects of chronic real appreciation add to high real interest rates and penalize non-subsidized domestic capital formation.

3.   *Changing opportunities for speculation in emerging market economies*

Carry trade, as any other form of speculation on international interest rate differentials that is not covered in the forward currency market, involves a currency risk. Speculative capital flows typically respond to short-term current and expected monetary variables, such as the interest rate, the exchange rate, liquidity and risk. A floating exchange regime supposedly increases the risk and discourages such operations, while a fixed exchange regime provides a (partial) guarantee of exchange stability, and therefore encourages speculation. However, specific experience of carry trade in officially floating currencies does not confirm this hypothesis. Indeed, floating currencies under various monetary policy regimes, rather than being immune to speculative operations actually stimulate them if the amounts available to investors are big enough to drive the market in a certain direction.

Integrating risk into the analysis implies fundamental difficulties in assessing the attraction of speculative capital flows and their effect on the real exchange rate. One difficulty is related to the definition and measurement of expectations and of perceived risk, because they are very sensitive to arbitrary behavioural assumptions. For the sake of simplicity, we look again at the ex-post uncovered interest rate returns, and take the associated currency volatility as a measure of risk, to figure out what, on average, could be the gains from speculation, bearing in mind that expectations can be strongly adaptive under fairly predictable environments. This implies that even a floating exchange-rate regime can provide a stable and comfortable environment for speculators as long as exchange rates do not systematically offset interest rate margins and the exchange-rate movements can be influenced by the herd behaviour of speculators.

This raises the question of how to come to grips with a central tenet of macroeconomic analysis – the assertion that there are always strong stabilizing forces on the capital market which will tend to quickly remove any arbitrage gain and lead to uncovered interest parity (UIP).[7] Traditional macroeconomic analysis would assume that currency volatility tends to reduce any form of speculation. However, even allowing for a certain degree of risk aversion on the part of speculators (meaning that for identical expected returns they will choose the assets with a smaller risk), exchange-rate volatility does not discourage portfolio and currency speculation. Clearly, the average return in many countries more than compensates for a risk of depreciation, in particular if the herd behaviour of speculators moves large sums that can influence the market values in their favour. The appeal of large returns is sufficient to generate them.

Figure 1.5 gives an idea of the possible relationship between risk and returns for some pre- and post-crisis periods for selected emerging market economies. The average quarterly returns created by the exploitation of interest rate differentials (vertical axis) are plotted against the volatility of the nominal exchange rate (horizontal axis). The two points for each country compare the situation before and after crisis episodes (i.e. periods of exceptional volatility and change). Large gains entailing relatively low risk were possible in the 1990s in the case of Brazil and Mexico before their respective crises. Turkey, on the other hand, offered spectacular returns in both periods, but these were associated with rather high risk. The Republic of Korea provided much smaller but more stable returns, while China attracted no capital inflows.

The more recent periods display higher risk in the case of Brazil and the Republic of Korea, but still very high returns in Brazil. In Turkey and Mexico, the uncovered return decreases, but the risk is more or less unchanged. Both countries and Brazil remained attractive places for international speculators even after a regime change to floating and lower interest rates. In general, there has been either an increase in risk, as in Brazil and the Republic of Korea, due to a switch to a floating exchange rate, or a fall in the return, as in Mexico and Turkey, due to a reduction in the in-

Figure 1.5

**AVERAGE UNCOVERED INTEREST RETURN AND CURRENCY VOLATILITY,
SELECTED COUNTRIES AND PERIODS**
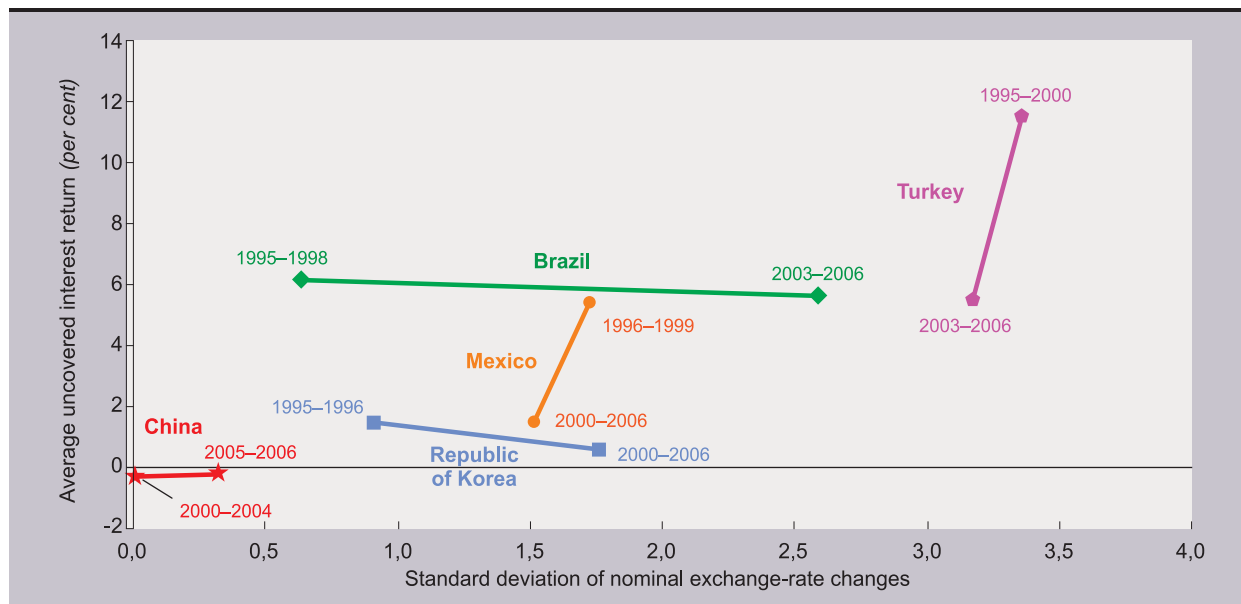
Source: UNCTAD secretariat calculations, based on IMF, *International Financial Statistics* database; and national sources.
Note: The uncovered returns are the averages of the quarterly returns for the selected periods.

terest rate differentials after the change in the monetary regime. Turkey, Brazil and Mexico, given the combination of return and risk, remained subject to the same kind of speculation before and after changes in their monetary regime.

4. Speculative capital flows and real effects

Large returns on uncovered interest rate speculation as well as large real returns for domestic financial investors penalize international competitiveness and capital formation through high real exchange rates and real interest rates. Figure 1.6 shows the UIR (vertical axis) and real exchange rate appreciation (RERA, horizontal axis) for some developed and emerging markets. As UIR is the sum of the interest rate differential and the nominal appreciation, and RERA is the sum of the inflation differential and the nominal appreciation, their difference is the real interest rate differential between the observed economy
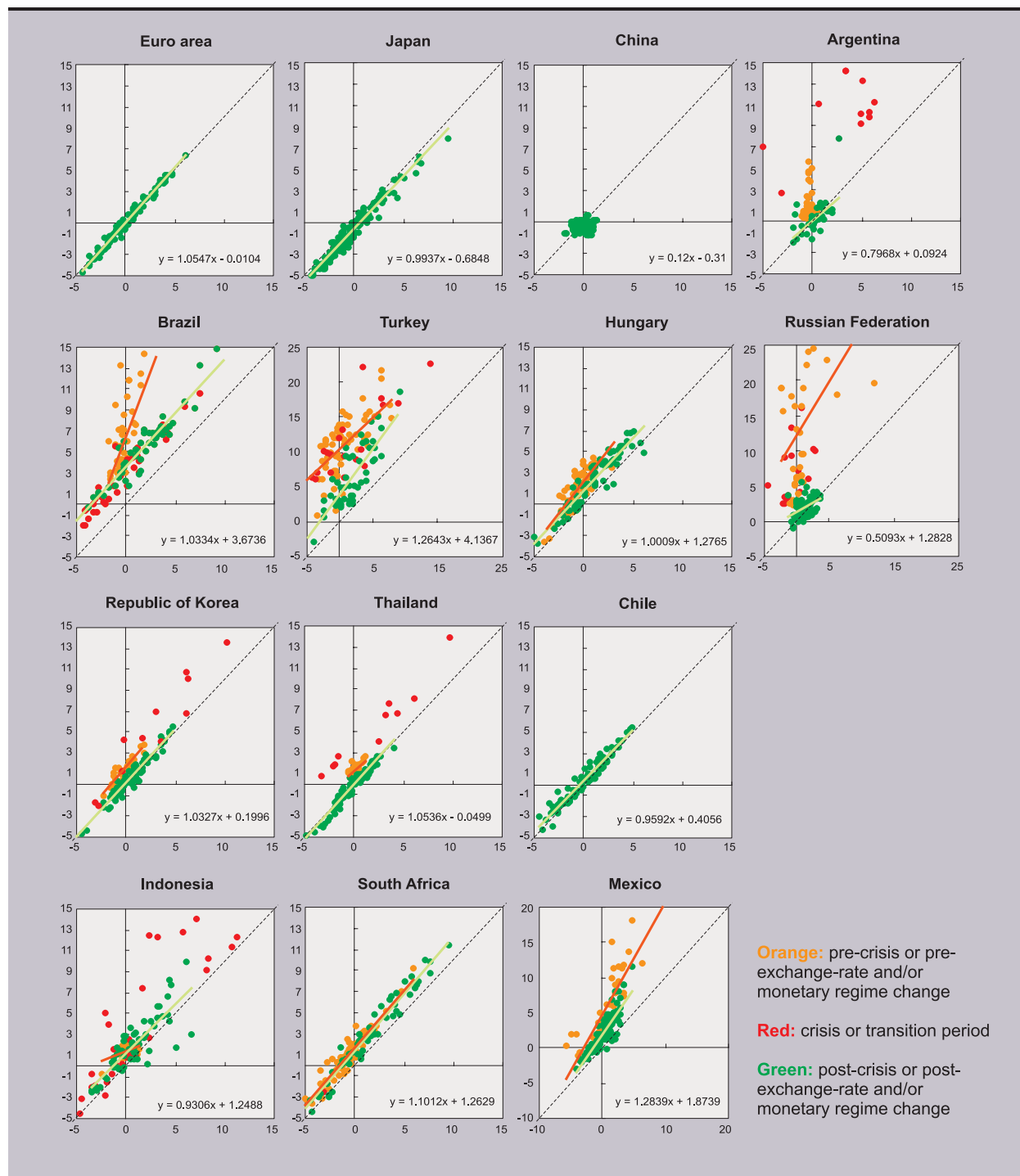
and the United States. It is an indication of the relative cost of capital formation (i.e. the cost to start a business or to extend existing businesses by investment in fixed capital in the country concerned). In the figure, the difference to the United States is the vertical distance of any observation point from the bisecting line (the line with dashes in each chart). The further above the bisecting line the scatter points are, the higher the cost of capital compared to the United States.

The observation points in this figure (each representing a three-month investment) are grouped into a pre-crisis or pre-regime change period (orange colour), a crisis and transitional period (red) and a post-crisis or post-regime-change period (green colour). A tendency of the points to gather around a clear trend line denotes a strong and stable relationship between interest rate differentials, nominal exchange rate variations and inflation differentials. The dispersion of the points along the trend line and the length of the dispersion indicate the degree of volatility of the exchange rate and/or inflation and of the interest

Figure 1.6

REAL EXCHANGE-RATE CHANGES AND UNCOVERED INTEREST RETURNS IN SELECTED ECONOMIES, 1995–2006

(Per cent)

Euro area $y = 1.0547x - 0.0104$

Japan $y = 0.9937x - 0.6848$

China $y = 0.12x - 0.31$

Argentina $y = 0.7968x + 0.0924$

Brazil $y = 1.0334x + 3.6736$

Turkey $y = 1.2643x + 4.1367$

Hungary $y = 1.0009x + 1.2765$

Russian Federation $y = 0.5093x + 1.2828$

Republic of Korea $y = 1.0327x + 0.1996$

Thailand $y = 1.0536x - 0.0499$

Chile $y = 0.9592x + 0.4056$

Indonesia $y = 0.9306x + 1.2488$

South Africa $y = 1.1012x + 1.2629$

Mexico $y = 1.2839x + 1.8739$

Orange: pre-crisis or pre-exchange-rate and/or monetary regime change

Red: crisis or transition period

Green: post-crisis or post-exchange-rate and/or monetary regime change

Source: UNCTAD secretariat calculations, based on IMF, *International Financial Statistics* database; and national sources.
  Note: For an explanation of how the real appreciation and the uncovered interest return are calculated, see text. Some quarterly observations are not included due to scale limitations. Vertical scale: uncovered interest return (per cent). Horizontal scale: real appreciation vis-à-vis the dollar (per cent). A positive change in the exchange rate indicates an appreciation of the currency concerned.

rate differentials. The interception of this trend line with the vertical axis at a positive value indicates a higher interest rate than in the United States. The slope of the trend line gives a measure of the association between interest rate differentials, inflation rate differentials and nominal appreciation. A trend line with a slope coefficient (the coefficient of x) close to 1 may represent an exchange and monetary policy of minimal intervention in the currency market and a close relationship between the interest rate and the inflation rate (see box 1.1 for a more detailed interpretation of these coefficients).

For most of the economies that experienced a change in their monetary regime, with or without a crisis, their trend line shifted downwards with a reduction of the interest rate differential but not necessarily with a reduction in volatility of the exchange rate, inflation rate and interest rate. Economies that lie close to the bisecting line enjoyed low interest rate differentials and displayed a close association of interest rate and inflation rate differentials. This applies to Chile, Japan and the euro area, and to the post-crisis Republic of Korea and Thailand. Exchange-rate changes have been significant, particularly for the first three economies, and have been the main source of changes in both the real exchange rate and uncovered returns.

For example, Japan and the euro area show a clear tendency to move parallel to the bisecting line, which implies that the exchange rate has not been a concern for the monetary authorities; they have preferred to use nominal (and real) interest rates to control inflation or (deflation). This has induced large swings in the uncovered returns and real appreciation rates. But in the case of the euro area, they have largely offset each other, while in the case of Japan, the observations are concentrated around a low real interest rate, which has invited speculation that has driven the yen down.

For Thailand and the Republic of Korea, after their crises, the change in their monetary regimes from soft peg to float was accompanied by considerable exchange-rate volatility, but with a tendency towards real appreciation. Larger volatility in Indonesia, on the other hand, went hand in hand with even larger appreciation and no significant reduc-

tion in interest rates. Again, China displays its own distinctive pattern of negative real interest rates and a fixed exchange rate, which, given a high degree of stability and the very low cost of capital, has been favourable to the creation of fixed capital through investment.

Brazil, Hungary, Mexico, South Africa and Turkey have recently adopted an inflation-targeting monetary regime that typically requires a free float of the currency and control of inflation rates through interest rates. Although the post-crisis regime marked deep structural changes for Brazil, Hungary, Mexico and Turkey, with a clear shift towards a lowering of interest rates and inflation rate differentials, the level of interest rates is still very high, volatility is large, and the tendency towards real appreciation and a deterioration in overall competitiveness persists for Brazil, Hungary, South Africa and Turkey. Their high real interest rate, consistently larger than the United States benchmark, constrains capital accumulation and may generate inflationary pressures by reducing capacity growth in the longer run.

5. National policies to prevent speculation

For small open economies, and developing countries in particular, a stable and prospering external sector is crucial. That is why the exchange rate is the most important single price in these economies, as it dominates overall competitiveness and has a strong impact on the national price level. Recent studies have found that a "competitive and stable" real exchange rate is a key economic policy tool for developing countries because it enables a persistent pattern of export expansion and investment growth based on a profit–investment nexus (*TDRs 2004* and *2006*; Rodrik, 1995) allowing to take advantage of favourable fundamentals, externalities and proper institutions (Eichengreen, 2007). The challenge for national policies is to combine the control of inflation rates, which has taken centre stage in many developing countries, with international competitiveness and low exchange-rate variability in a world of free and volatile short-term capital flows.

Box 1.1

<div align="center">

UNCOVERED INTEREST PARITY

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A fundamental tenet of our theoretical conventional wisdom and a building block of standard mac-roeconomic models is the uncovered interest parity (UIP), a condition that relates capital and cur-rency market equilibrium to interest rate differentials and expected exchange rate changes. Capital inflows and outflows would find equilibrium if the incentive to buy a currency and invest abroad, driven by an interest rate spread, is completely offset by the potential loss of the currency value, that is, if the positive interest rate spread is compensated by an expected devaluation of the ex-changed currency. This implies that assets denominated in a different currency should have the same return so that *no extra profit* can be made by exchanging them. On the other hand, it also implies that it should not be profitable to short-sell or borrow in a currency and lend uncovered in another. The uncovered interest parity condition is therefore an equilibrium condition that rules out excess de-mand in the international market. Coupled with the assumption that expectations are formed in a fully rational way (market participants use *efficiently all the information* available), it becomes a manifestation of the market efficiency hypothesis that states that any security price (exchange rate included) reflect all available information, and that no unexploited extra profit is possible.

The literature on the validity of parity has been extensive and has strongly rejected the joint as-sumptions of UIP and of exchange rate expectations on the basis of "perfect rationality". Attempts to solve the rational-expectation UIP puzzle either by adding a time varying risk premium, or by assuming a transitional learning period, or by adding "noisy traders", have delivered theoretically and empirically controversial results.

The carry trade phenomenon, as well as many other profitable speculative activities, not only clearly violate the parity condition, but also give additional support to its related "forward-premium puz-zle" (Burnside, Eichenbaum and Rebelo, 2007). The evidence that currencies at a forward pre-mium tend to depreciate while currencies at a forward discount tend to appreciate implies that positive interest rate differentials are systematically associated with appreciation. The parity can preserve its theoretical relevance for analysing the possible market equilibrium configurations by avoiding any strict assumptions on expectation formation and determination of perceived risk.

<div align="center">

Real exchange rate and uncovered returns

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We define ω, ρ, δ, π, and π^* as the uncovered interest return (UIR), the variation of the real appre-ciation (RERA), the nominal exchange-rate change, the domestic and foreign inflation rates, re-spectively, and observe that

$$\rho = \pi - \pi^* + \delta, \text{ and}$$

$$\omega = i - i^* + \delta,$$

As emphasized in *TDR 2004* (chap. IV), large inflation differentials lead to large interest rate spreads, because central banks use the interest rate as the principal instrument to curb inflation via a contraction in credit and demand. But nominal returns are the focus of carry trade by financial investors. These investors are not concerned with inflation differentials and other fundamentals per se, as long as they do not constitute a threat to the stability of the currency and therefore to their ex-

that is, the rate of real appreciation is the sum of the inflation differential and the nominal rate of appreciation, while the uncovered interest return is the sum of the interest rate differential and the nominal appreciation.

The real interest rate $r \equiv i - \pi$ is defined as the difference between the nominal interest rate and the rate of inflation. The difference between the uncovered return, ω, and the real appreciation, ρ, is the real interest rate differential $\gamma \equiv r - r^*$, with

$$\omega - \rho = (i - i^*) - (\pi - \pi^*) - \delta + \delta = (i - \pi) - (i^* - \pi^*) = r - r^*.$$

We note the real interest rate differential is equal to the vertical distance of each observation from the bisecting line in the (ρ, ω) space (see figure 1.6).

The relation between points in the (ρ, ω) space can be easily captured by identifying the parameters: α and β obtained by regressing the relation

$$i - i^* + \delta = \beta (\pi - \pi^* + \delta) + \alpha,$$

which implies

$$i - i^* = \beta (\pi - \pi^*) - (1 - \beta) \delta + \alpha$$

with β capturing the comovements of $\pi - \pi^*$, $i - i^*$ and δ, and with α measuring a structural tendency of having higher domestic nominal interest rates.

For values close to $\beta = 1$ and $\alpha = 0$, returns and the real exchange rate move along the bisecting line. Real rates of return are close to those of the United States, while interest rate differentials closely follow inflation differentials. Nominal exchange rate changes can be significant and induce large changes in the real appreciations, ρ, and the returns, ω, but do not have an effect on interest rates and inflation rates.

For values close to $\beta = 1$ and for $\alpha > 0$, returns and real exchange rates move on a 45° line, and similar considerations apply to the relation between the variables; however interest rates tend to be persistently higher than those of the United States.

For values of $\beta > 1$, the real interest rate differential γ is greater the larger the values of ρ and ω.

A nominal appreciation is associated with tightening of monetary conditions (with a coefficient $\beta - 1$, for a given inflation rate differential), a nominal depreciation is associated with larger inflation (with a coefficient equal to $(1 - \beta)/\beta$, for a given interest rate differential), and monetary policy responds to inflation by changing the interest rates (at a rate equal to β, for a given exchange rate). The larger β, the larger is the pass-through of the exchange rate on prices and the smaller is the effect of a nominal depreciation on the real exchange rate, or, reversing causality, the larger is the nominal depreciation required to preserve a competitive real exchange rate. Large interest changes are associated with smaller inflation rate changes.

pected profits. The capital inflows induced by nominal interest rate spreads, coupled with an exchange rate that is perceived as either stable or appreciating, on average, or even depreciating but still allowing for sufficient returns, have huge re-

percussions for the real economy and for current-account imbalances worldwide.

The financial and real systemic effects of portfolio capital inflows vary according to the

specific institutional, structural and even cyclical situation of the recipient economy. Financial development and intermediation, the size of the inherited internal and external debt, the composition of production and of the trade balance affect the capacity to absorb the flows and their impact on relative prices and growth. Nevertheless, the scenarios that characterize emerging market financial fragility and volatility share common features. Under a fixed exchange rate or crawling-peg regime, capital inflows boost reserves, money creation and credit expansion, which may induce consumption growth and inflation and an import surge. Under an officially floating exchange regime, they can induce nominal and real appreciation and increase reserves to the extent that the central bank, openly or implicitly, is willing to contain exchange-rate changes. There may be a time lag in their effects on the real side of the economy but it may be critical. An overvalued exchange rate penalizes exports and reduces competitiveness, and therefore the growth of firms in the traded-goods sector. This in turn adversely affects income and growth in general. Finally, deteriorating economic conditions may make the country the object of a renewed focus on "bad fundamentals"; the exchange rate may sharply devalue and the central bank's ability to contain inflation may be called into question.

If targeting inflation via interest rates involves serious additional costs by inducing capital inflows, such anti-inflationary strategies have to be weighed against alternatives that might be less tried and tested but may yield significant long run real benefits. These alternatives may be found in the new and heterodox national macroeconomic policies applied with outstanding success in most of Asia (*TDR 2006*, chap. IV, section D). In this approach, monetary policy focuses mainly on the external sector, including the exchange rate. Inflation is controlled by other factors and policies than those controlled by the central bank: typically, well-designed income policies taking into account the existing labour market institutions have played a leading role.

Preventing large gains for foreign investors from short-term arbitrage operations keeps the *actual* rate of appreciation in check and cuts the link between these capital flows and the real exchange rate, thus maintaining a country's competi-

tiveness. Indeed, some countries have consistently been successful in preventing persistent real appreciation. This may require policies to restrain short-term capital inflows and outflows through regulation as long as the expected profitability from speculation cannot be reduced by a traditional set of policies such as an interest rate reduction. Internal and external debt restructuring may help limit the effect of international speculation by reducing nominal interest rates.

6. Globally coordinated policies to reduce global imbalances

The ongoing carry trade from countries with very low inflation and very low nominal interest rates to countries with higher inflation and higher interest rates, such as Brazil, Hungary or New Zealand, breaks the fundamental link between interest rate differentials and the risk of currency depreciation. If floating exchange rates do not follow the purchasing power rule in the short term and destabilize the external accounts, then international policy should aim at preserving this rule as a policy target. Unhedged borrowing by hedge funds and other speculators more than anything else raises questions about the wisdom of widespread acceptance of floating as the only feasible solution to the problem of the external balance.

That is why the political pressure on China to float its currency may end up producing exactly the opposite of the result expected. As China's interest rates are still rather low, it is by no means clear that the renminbi will appreciate if China were to give in to the pressure from the United States and float its exchange rate. The renminbi might risk following the examples of the yen and the Swiss franc and be carried to high interest rate locations. If that were to happen, it would depreciate and cause a further increase in China's competitiveness instead of reducing it. Such an outcome would clearly worsen the global imbalances.

Developing countries in general need flexibility and a sufficient number of instruments to prevent excessive volatility of the whole external sector, which threatens long-term investment and

successful catching up. Evidence does not support the orthodox belief that, with free floating, international financial markets will perform that role by smoothly adjusting exchange rates to their "equilibrium" level, while with fixed exchange rates, product, financial and labour markets will always be flexible enough to smoothly and rapidly adjust to a new equilibrium. In reality, exchange rates under a floating regime have proved to be highly unstable, leading to long spells of misalignment, with grave consequences for the real economic activity of the countries concerned. The experience with hard pegs has not been satisfactory either: the exchange rate could not be corrected in cases of external shocks or misalignment, adjustments were costly in terms of lost output, and the real sectors of the domestic economy bore the brunt.

Given this experience with rigidly fixed and freely floating exchange rates, "intermediate" regimes have become the preferred option in most developing countries with open capital markets; they provide more room for manoeuvre when there is instability in international financial markets, and enable adjustment of the real exchange rate to a level more in line with a country's development strategy. None of the "corner solutions" offer these possibilities. Developing countries that are not members of a regional monetary arrangement that could deal with the vagaries of the global financial markets thus have to resort to controls of short-term capital flows or adopt a strategy of undervaluation and unilateral fixing (*TDR 2004*).

To prevent manipulation of the exchange rate, wage rates, taxes or subsidies in the bid for global market shares, and to deter the financial markets from driving the competitive positions of nations in the wrong direction, a new code of conduct is needed that would regulate the overall competitiveness of nations. Such a code of conduct, as part of the global governance system, would have to balance the advantages of one country against the disadvantages of other, directly or indirectly, affected countries. For example, changes in the nominal exchange rate that deviate from the fundamentals (such as inflation differentials) affect international trade in exactly the same way as do changes in tariffs and export subsidies. Consequently, such real exchange-rate changes have to be subject to multilateral oversight and negotiations. Reasons for the deviation from the fundamentals, and the necessary size of the correction, have to be identified by an international institution and enforced by a multilateral body. Such rules could help protect all trading parties against unjustified overall losses or gains from competitiveness, and developing countries could systematically avoid falling into the trap of overvaluation that has been one of the major impediments to prosperity.

A long-term solution for the international financial system has to start with the recognition that the idea of a multilateral monetary system is as compelling as the idea of a multilateral trading system. As with multilateral trade rules, a well-designed global financial system has to create equal conditions for all parties involved and should help prevent unfair competition. Indeed, the reasons for which the IMF was founded more than 60 years ago are still largely valid. Avoiding competitive depreciations and other monetary distortions that have negative effects on the functioning of the international trading system is more important in today's highly interdependent world than at any other time in history. ∎

Notes

1   If measured at purchasing power parity (PPP) exchange rates, the estimated GDP growth for 2007 is 4.9 per cent compared to 5.3 per cent in 2006. The reason for this discrepancy is that the share in global GDP of rapidly growing developing countries (such as China and India) is much higher when measured in terms of PPP than at market exchange rates.

2   In Africa, UNCTAD and the ECOWAS Bank for Investment and Development have pooled efforts to promote the financing of biofuels and jatropha plantations. Under this regional initiative, a fund is to be set up to promote investment in the biofuels supply chain, including for financing research and development, as well as capacity-building (UNCTAD, 2007c).

3   REER is a comprehensive measure of the competitiveness of an economy with respect to its trading partners. It is calculated as the average of bilateral real exchange rates weighted by annual values of trade.

4   The role of the real exchange rate in the international adjustment mechanism is regaining an attention from the international financial institutions (see IMF, 2007), yet the policy prescriptions are still depending on the diverging views on the sources of the real exchange rate misalignments and the ability of market forces to provide the required adjustment of the balances. The recent world experience tends to reject the case for an effective "market-led" adjustment or the belief that any single economy could independently find its correction measures.

5   In *TDR 2006,* it was noted that some interpretations of this situation, mostly by those blaming it on an excess of world savings relative to world investment demand, appear to be inconsistent not only with policy intuition and common sense but also with actual experience. Indeed, in terms of accounting, global imbalances correspond to a misalignment of national savings with investment, and of national income with domestic expenditure. However, neither the savings-investment nor the income-expenditure gaps can be considered the direct sources of the trade imbalance, and therefore of international real income transfers; rather these are the joint outcomes of income changes and relative price movements, such as shifts in the terms of trade, in the real exchange rate and in relative factor costs.

6   To reduce its volatility, induced by monthly nominal exchange-rate fluctuations, we use a 6-month moving average of the real exchange rate, with 2000 as the basis year.

7   The UIP states that capital flows find equilibrium when the expected devaluation of a currency compensates for the interest rate differential obtained by investing in that currency. As discussed in box 1.1, the empirical evidence rejects UIP when expectations and risk perception are not formed in a "fully rational way".

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Statistical annex to chapter I

Figure 1.A1

UNCOVERED INTEREST RETURNS, EXCHANGE-RATE CHANGES, INFLATION AND INTEREST RATE DIFFERENTIALS, SELECTED COUNTRIES, 1995–2006

Real exchange-rate change
Inflation rate differential
Real exchange-rate trend (right scale)

Uncovered interest return
Interest rate differential
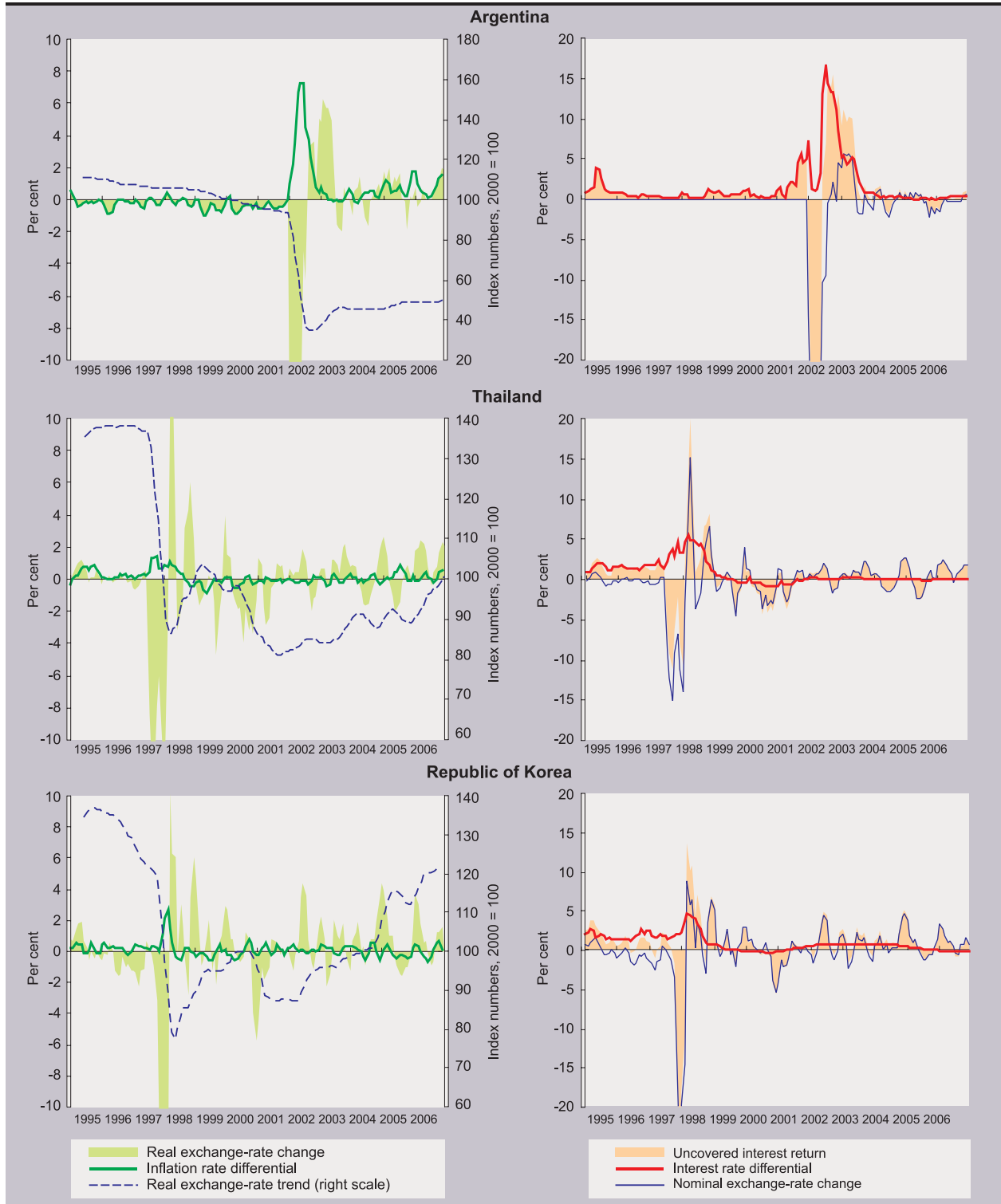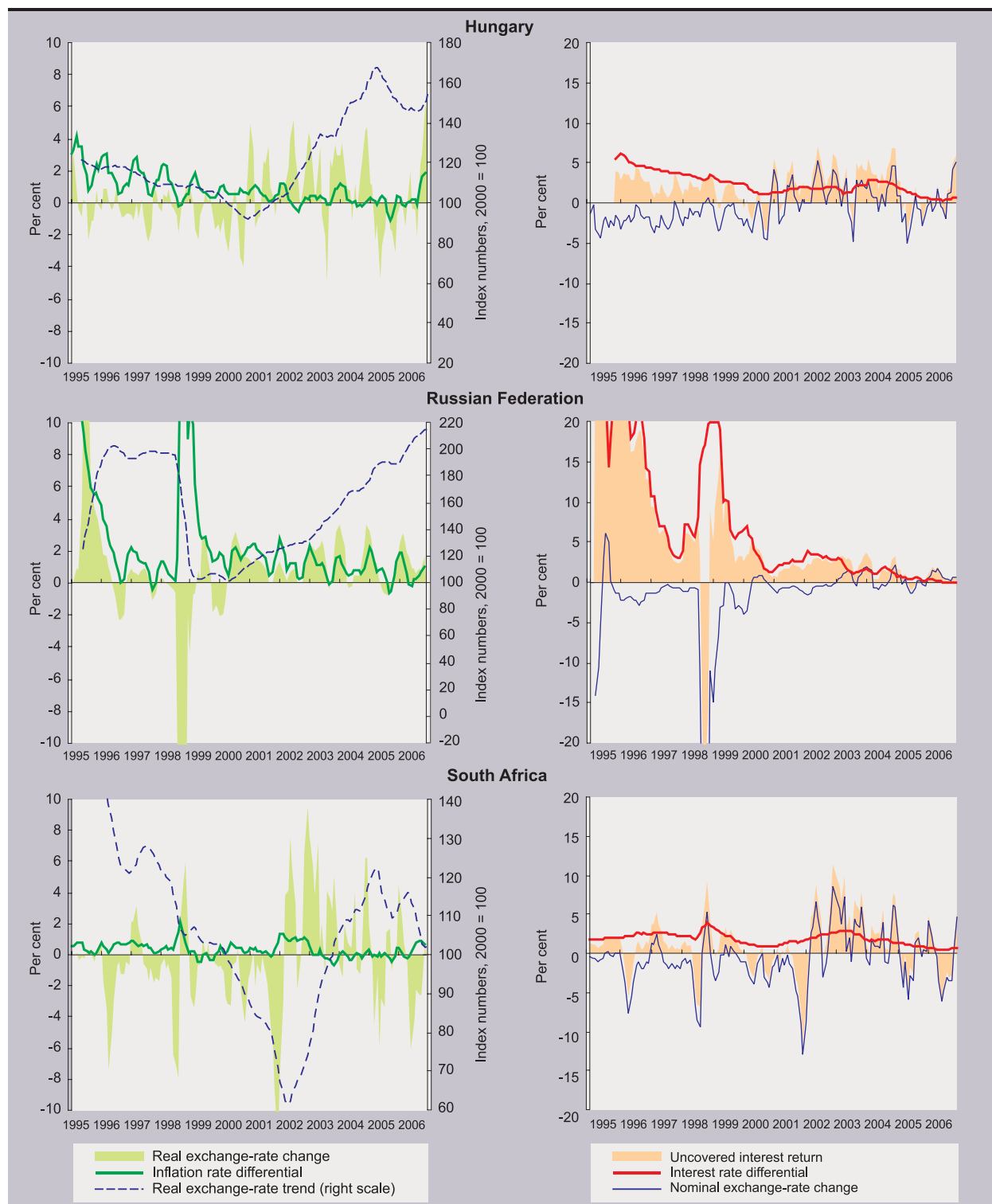Nominal exchange-rate change

Figure 1.A1 (concluded)

**UNCOVERED INTEREST RETURNS, EXCHANGE-RATE CHANGES, INFLATION AND
INTEREST RATE DIFFERENTIALS, SELECTED COUNTRIES, 1995–2006**

Hungary

Russian Federation

South Africa

Real exchange-rate change
Inflation rate differential
Real exchange-rate trend (right scale)

Uncovered interest return
Interest rate differential
Nominal exchange-rate change

Source: UNCTAD secretariat calculations, based on IMF, *International Financial Statistics* database; and national sources.
Note: A positive change in the exchange rate indicates an appreciation of the currency concerned. Real exchange-rate trend
is a 6-month moving average. For an explanation of differentials, see text.