Capital flows to the Brazilian economy: 2003–07[1]

Katherine Hennings[2] and Mário Mesquita[3]

The Brazilian economy has long been open to foreign capital. As a country with inadequate levels of domestic savings (less than 20% of GDP), it has recurrently tapped external resources to fund its development. That pattern has not changed much in recent years: as Brazilian growth accelerated, from 3.2% in 2005 to 6% in the four quarters up to June 2008, its current account position as a percentage of GDP shifted from a surplus of 1.6% to a deficit of 1.2%. But in that case, unlike in past episodes, the composition of external liabilities shifted as the balance moved to a deficit – debt instruments were largely replaced by equity stakes (Graph 1). The change has had two important implications for balance of payments dynamics: exchange rate risk now predominantly lies with foreign investors rather than Brazilian borrowers; and returns on foreign capital invested in Brazil tend to be more highly correlated with domestic economic conditions than with monetary policy in the mature economies (Graph 2).

After the debt crisis, which began in 1982, Brazil did not return to international financial markets until the 1990s, after successfully completing a restructuring agreement with its creditors. Brazil's macroeconomic framework then improved considerably, with the end of hyperinflation in 1994 and the introduction of a wide-ranging privatisation programme in the latter part of the decade. Moreover, Brazil removed legal restrictions on participation by non-residents in some sectors of the economy (for instance, oil and gas, and telecommunications). With that liberalisation plus privatisation, foreign direct investment (FDI) in Brazil increased, but debt instruments still dominated. Within the set of portfolio flows, equity flows dominated briefly, but otherwise, until the past few years, flows mainly consisted of fixed income instruments, mostly in the form of public debt.

As this note will discuss, the recent increase in flows to and from the Brazilian economy and the recent trend towards the participation of direct investors have been supported by the cycle of abundant international liquidity, but they have also been stimulated by the improving fundamentals of the Brazilian economy.

1. Recent trends in capital flows to Brazil

Foreign direct investment

Flows of non-resident direct investment to Brazil were small and reasonably stable, at around USD 1.6 billion per year, when the country was in default (1982–92). This performance reflected a high degree of macroeconomic uncertainty plus the presence of legal restrictions on FDI in selected sectors. After the 1992 agreement on external debt, which was approved by Congress in 1994, and after the introduction of the Real plan, which ended hyperinflation,

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[2] Senior Advisor to the Board, Banco Central do Brasil. E-mail: katherine.hennings@bcb.gov.br

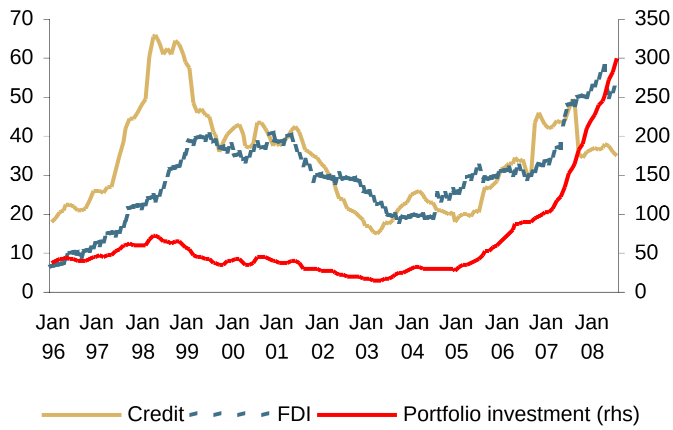
[3] Deputy Governor for Economic Policy, Banco Central do Brasil. E-mail: mario.mesquita@bcb.gov.br

GDP growth increased, reaching 5.9% in 1994 and 4.2% in 1995. Likewise, inflows began an upward trend, and some sort of accelerator effect seemed to be at work: net FDI inflows, which were USD 2.1 billion in 1994 and USD 4.4 billion in 1995, shot up to an annual average of USD 15.7 billion in the 1995–98 period. Of that new amount, which was roughly 10 times the average inflow in the debt crisis period, only about 10% was in the form of intercompany loans (Table 1).[4] Moreover, inflows were speeding up at the margin, reaching USD 28.8 billion in 1998.

Graph 1

Capital flows to Brazil

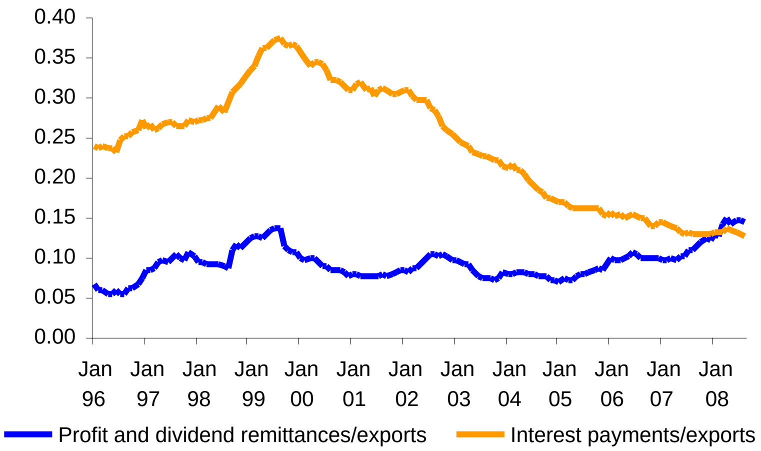
In billions of US dollars



Graph 2

Ratio of income remittances to exports

Twelve-month accumulation, in billions of US dollars



[4] Net FDI inflows are the gross inflows deducted from the repatriation of FDI previously made, accumulated from 1991 to 2002.

Table 1

Direct investment flows to and from Brazil

In millions of US dollars

	2005	2006	2007	2008[1]	1995–98	1999–2002	2003–07
Foreign direct investment[2]	15,066	18,823	34,584	24,576	15,761	25,102	19,352
Equity capital	15,045	15,373	26,074	17,670	14,107	23,971	16,876
Intercompany loans	21	3,450	8,510	6,906	1,654	1,131	2,476
Brazilian direct investment abroad[2]	2,517	28,202	7,067	12,374	1,149	1,049	9,568

[1] Up to August. [2] Net of returns.

Inflows in those years were strongly influenced by the privatisation and deregulation programmes, which allowed foreign participation in new fields like energy, gas, rail transportation, telecommunications and financial services. Although FDI in privatised enterprises reached USD 42.1 billion[5] and, with the exception of 1999, was never more than one third of the annual inflow, the favourable environment it created stimulated FDI in other sectors.

During the financial crises of the 1990s – Mexico in 1994–95, Asia in 1997, Russia in 1998, Argentina and the 9/11 attacks in 2001, and Brazil's pre-election confidence crisis in 2002 – FDI annual inflows continued to be robust. They averaged USD 25.1 billion, equivalent to about 4.3% of GDP, in 1999–2002, and financed almost all of the current account deficit.[6] From 2003 on, after a small decline, the upward trend continued, and FDI, with no privatisation-related inflows, reached USD 34.6 billion in 2007.

Until privatisation and deregulation in the 1990s, FDI used to be concentrated in manufacturing (66.8% of the stock), while the services sector received 29.3% and agriculture and mining just 3.9%.[7] Within the manufacturing sector, the chemical products industry received some 15.3% of total FDI, followed by the automotive sector (13%), basic metallurgy and food and beverages (8% each) and machinery and equipment (6.3%). However, since then, around 50% of gross FDI inflows have been directed to the services sector, specially telecommunications (20.2% of FDI in the services sector), financial and auxiliary services (20.4%), retail trade (15.5%), gas and energy (11.2%) and real estate (9.3%). This trend reflected the privatisation programme – whereby the state divested itself of large public utilities in the energy and telecommunications sectors – as well as the somewhat slow growth of manufacturing in the second half of the 1990s.[8]

5 Share of total foreign resources in privatisation processes, federal and regional government levels.

6 In 2001, FDI was equivalent to 4.1% of GDP, while the current account deficit was 4.2% of GDP. In the other years, FDI inflows were enough to finance the current account deficit.

7 Early 20th century FDI used to flow towards the services sector, as was the case in most of the region, particularly the infrastructure of the largest cities and the main ports. Post-WWII FDI, in contrast, went mostly into the manufacturing sector.

8 In 2007 and the first half of 2008, a pickup in FDI in metal and mining led the increase in the inflow to USD 11.7 billion, some 14% of total inflow for the period.

Net FDI liabilities in 2007 reached USD 328.5 billion, one third of gross external liabilities. FDI inflows have mostly been in the form of equity stakes rather than intercompany loans, which constituted 12% of total net inflows from 2002 to 2007.

The increase in the inflows of FDI has been accompanied by an increase in the outflows of income remittances linked to previous non-resident investments. Those outflows grew especially from 2005, when they almost doubled compared with previous years, reaching USD 11 billion. The upward trend has continued (Table 2). This behaviour reflected the cyclical upswing in Brazil as well as the appreciation of the Brazilian real (BRL).

Table 2

Direct investment income remittances

In millions of US dollars

	2005	2006	2007	2008[1]	1995–98	1999–2002	2003–07
Income remittances	11,036	13,899	19,692	19,158	4,319	5,086	11,502
Profits and dividends	9,783	12,373	17,898	18,045	3,772	3,980	10,148
Interest on intercompany loans	1,253	1,526	1,794	1,113	547	1,106	1,354
Profits and dividends received	733	1,073	2,202	1,059	890	955	1,201

[1] Up to August.

Importantly, and in line with what happened in other large emerging economies, the outflow of Brazilian direct investment (BDI) has also increased in the past few years. To some extent, this too resulted from deregulation: until 2005, direct foreign investment by residents needed to be approved by the authorities. In this context, the annual average of BDI grew from USD 1 billion in 1999–2002 to USD 9.6 billion in 2003–07. Given that the stock of BDI is still relatively small, inflows of profits and dividends have also been limited, reaching an annual average of just USD 1.2 billion between 2003 and 2007.

The UNCTAD World Investment Report (2008) stated that global FDI inflows increased 30% in 2007, reaching USD 1,833 billion. Latin America and the Caribbean received USD 126 billion of these resources, a rise of 36% over the 2006 figure. For South America, the increase was 66%, with USD 72 billion of inflows targeting the extractive industries and natural resource-based manufacturing (which is the industry that processes the raw material produced in the host country). Brazil was the top destination among Latin American and Caribbean countries, followed by Mexico (USD 24.7 billion) and Chile (USD 19.3 billion). As a share of GDP (2.6%), however, inflows to Brazil were less significant than those to Chile (11.8%), albeit larger than to Mexico (2.4%).

Foreign portfolio investment[9]

The size and magnitude of portfolio investment flows to Brazilian capital markets have changed substantially, especially in the past five years. Net inflows in the 1995–98 period were directed mainly to public securities, at an annual average of USD 11.2 billion, while investment in equities reached an annual flow of USD 4.3 billion.[10] Rising uncertainty following the exchange rate crisis in early 1999, as well as the domestic energy crisis in 2001 and the election crisis in 2002, heavily impacted these flows, which were just USD 2.1 billion (net) in those years – gross inflows were significant in those years, but so were outflows.

Beginning in 2005, with lower inflation and the start of a cyclical upswing, net inflows into the local equity market increased substantially, from USD 5.4 billion to USD 24.6 billion in 2007. Also from 2005 to 2007, gross inflows grew from USD 32.3 billion to USD 116.6 billion while the outflows rose from USD 26.9 billion to USD 92.0 billion. Be it in net or gross terms, these inflows are unprecedented in the post-World War II Brazilian experience.

In fact, non-resident investors have taken on a key role in the increase in the number of initial public offerings in the local equity market, which rose from nine in 2004 to 59 in 2007. The capital market in Brazil has finally emerged as a source of financing for investment, partially replacing the domestic credit market and taking over some of the burden placed on the state-owned development bank (BNDES). Unlike the local buy-and-hold institutional investors, foreign investors, who owned some 12% of total market capitalisation as of December 2007, often are the marginal buyers and sellers of securities and as such play a pivotal role in price setting.

In December 2006, the government exempted foreign investors from paying withholding tax on long-dated holdings of fixed income instruments. As a result, net inflows directed at purchasing fixed income securities rose from USD 0.7 billion in 2005 to USD 20.5 billion in 2007 – the gross inflow in this market in 2007 being USD 61.3 billion and the gross outflow USD 40.8 billion. As of December 2007, foreigners held about 6% of total fixed income securities traded in the domestic market and accounted for 35% of market turnover.

Net investment in long-term assets was USD 13.5 billion, but the amount invested in short-term fixed income securities was also relevant, with gross inflows reaching USD 20.3 billion in 2007, while gross outflows were USD 13.8 billion (Table 3).

Foreign investors have contributed in important ways to the development of Brazilian debt markets, particularly by providing demand for long-dated government bonds. In fact, the combination of macroeconomic stabilisation and the interest of foreigners in long-term public securities allowed the Treasury to lengthen the maturity of domestic public debt, which at the time of writing had an average tenor of nearly 38 months, compared with nine months a decade ago.

Brazilian portfolio investment abroad grew substantially in the last few years, especially due to removal of some regulatory impediments, but also thanks to rising profitability of local corporate. Still, outflows are substantially smaller than inflows (Tables 3 and 4).

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[9] Portfolio investment refers to flows directed to equities and public securities traded in Brazilian domestic markets.

[10] The data used in the analysis are mainly from the balance of payments, compiled through information gathered from exchange rate contracts. In Brazil, all foreign exchange transactions should be made through an exchange rate contract that is registered in the central bank's database.

Table 3

Portfolio investment flows to Brazilian markets

In millions of US dollars

	2005	2006	2007	2008[1]	1995–98	1999–2002	2003–07
Equities[2]	5,421	5,859	24,613	–256	1,799	–760	7,844
Inflows	32,332	48,511	116,581	170,500	24,709	9,281	44,339
Outflows	26,911	42,652	91,968	170,756	22,910	10,041	36,495
Securities, long-term	413	6,971	13,548	13,610	–1,434	–487	4,226
Inflows	2,450	17,776	40,987	26,124	1,263	1,202	12,610
Outflows	2,037	10,805	27,439	12,514	2,697	1,689	8,384
Securities, short-term	275	4,070	6,934	2,051	53	–32	2,290
Inflows	1,633	10,400	20,337	5,430	111	328	6,719
Outflows	1,358	6,330	13,403	3,379	58	360	4,429

[1] Up to August. [2] Traded in domestic markets.

In December 2007, the portfolio of foreign investors in the Brazilian capital market reached USD 214.11 billion: almost 77% in equities, 19% in fixed-yield government notes, 0.8% in derivatives, 0.05% in corporate notes and 2.7% in other financial instruments.

Table 4

Brazilian portfolio investment abroad

In millions of US dollars

	2005	2006	2007	2008[1]	1995–98	1999–2002	2003–07
Equities	831	916	1,414	–75	213	1,082	708
Outflows	901	1,322	1,976	1,244	267	1,790	936
Inflows	70	406	562	1,319	54	708	228
Securities, long-term	519	–342	–1,789	–487	–136	–444	–283
Outflows	3,607	4,372	3,084	1,470	1,319	1,286	3,146
Inflows	3,088	4,714	4,873	1,957	1,455	1,730	3,429
Securities, short-term	421	–579	90	–121	–1	0	–14
Outflows	421	325	390	0	14	0	227
Inflows	0	904	300	121	15	0	241

[1] Up to August.

The increase in portfolio investments, the appreciation of Brazilian asset prices (including the currency) and faster economic growth led to an increase in the remittances of dividends, from an annual average of USD 1.3 billion in 1999–2002 to USD 3.6 billion in 2003–07, while remittances of interest paid by securities remained basically stable at USD 15 billion (Table 5).

Table 5

Portfolio income

In millions of US dollars

	2005	2006	2007	2008[1]	1995–98	1999–2002	2003–07
Equities (dividends)	3,554	4,945	5,702	6,734	1,345	1,274	3,635
Fixed income (interest)	14,461	14,877	15,342	10,503	12,362	15,667	14,619

[1] Up to August.

Credit flows[11]

The nature of lending inflows changed substantially from the 1980s as banks embraced the originate-to-distribute business model. Thus, syndicated loans were replaced by the issuance of private commercial paper and notes, which became the main credit sources. However, direct loans, suppliers and trade credits are still important, especially for trade finance (Table 6).

The nature of external credit to the government also changed. After the restructuring of the external debt, in the beginning of the 1990s, the government's debt management strategy focused on building a yield curve that could be a benchmark for private sector issuance. This process was intensified after the prepayment of the debt held by the IMF and the Paris Club in 2004–05.[12]

Regarding the private sector, there was substantial deleveraging, especially until 2006. Despite the abundance of liquidity in international markets and the generally low level of global interest rates, the search for credit abroad was limited. Thus, in paying down their external debt, private sector debtors as well as the public sector benefited from international conditions, which led to small or negative net credit flows and reduced the Brazilian external debt.

The strongest increase in credit inflows has been related to international trade, in line with the strong growth of exports and imports since the beginning of the new century. Large trade surpluses since 2003 resulted in an abundance of foreign currency in domestic exchange markets, contributing to the appreciation trend of the domestic currency.

[11] For credit flows, we take the capital raised by bonds, notes and commercial paper issued abroad, plus long-term and short-term commercial credit, direct loans and financing. These statistics are not directly shown in the balance of payments accounts because bonds, notes and commercial paper are registered in portfolio investments.

[12] In 2006, to cover the buyback of external public bonds, the call of Brady bonds, tender offers and exchange offers, the government paid USD 17.5 billion. In 2007, buybacks reached USD 1.3 billion. In 2005, prepayments of IMF debt reached USD 20.8 billion. In October, a call of C-bonds (capitalisation bonds) amounted to USD 1 billion.

Table 6

Private credit flows to Brazil

In millions of US dollars

	2005	2006	2007	2008[1]	1995–98	1999–2002	2003–07
Bonds (public and private)	2,208	–13,223	–7,880	–2,659	–79	2,441	–3,303
Inflows	12,490	5,575	2,883	538	2,834	8,432	6,893
Outflows	10,282	18,798	10,763	3,197	2,913	5,991	10,196
Notes and commercial paper	–3,126	3,450	5,633	1,596	12,613	–2,489	–183
Inflows	7,337	10,244	15,434	5,640	16,855	6,979	8,566
Outflows	10,463	6,794	9,801	4,044	4,242	9,468	8,749
Short-term securities traded abroad	435	91	3,651	571	5	106	975
Inflows	1,434	4,084	10,862	2,637	130	836	4,305
Outflows	999	3,993	7,211	2,066	125	730	3,330
Trade finance (suppliers)	3,585	12,789	17,210	6,752	483	–1,930	7,000
Long-term	–941	–841	134	548	86	–2,165	–799
Disbursements	740	812	1,618	1,744	378	2,657	1,029
Amortisation	1,681	1,653	1,484	1,196	292	4,822	1,828
Short-term[2]	4,526	13,630	17,076	6,204	397	235	7,799
Loans, long-term[3]	–2,291	10,505	64	10,188	–1,836	–911	–243
Disbursements	7,976	27,250	16,076	15,299	–129	14,705	13,957
Amortisation	10,267	16,745	16,012	5,111	1,707	15,616	14,200
Loans, short-term[3, 4]	–1,059	–516	13,768	2,099	–755	–1,854	1,913
Total	–248	13,096	32,446	18,547	10,431	–4,637	6,159

[1] Up to August. [2] Disbursement net of amortizations. [3] Includes international organisations, agencies, buyers' credit and direct credit. [4] Inflows net of amortisation payments.

The combined data on investment and debt flows from 2001 to 2007 show that FDI is equivalent to about 33–40% of total net external liabilities, while the ratio of external debt to total liabilities decreased from 56% in 2001 to 35% in 2007, which clearly indicates the change of financing sources.

In sum, capital flows to and from the Brazilian economy grew substantially in the past five years, and more intensely from 2006 on. But the trend was concentrated in portfolio investments, with less reliance on credit and more on investment funding.

Abundant international liquidity during the recent period was an important determinant of the rise in flows and the shift towards investment funding, but one must look also at the domestic causes of those trends.

2. Explaining capital flows to Brazil

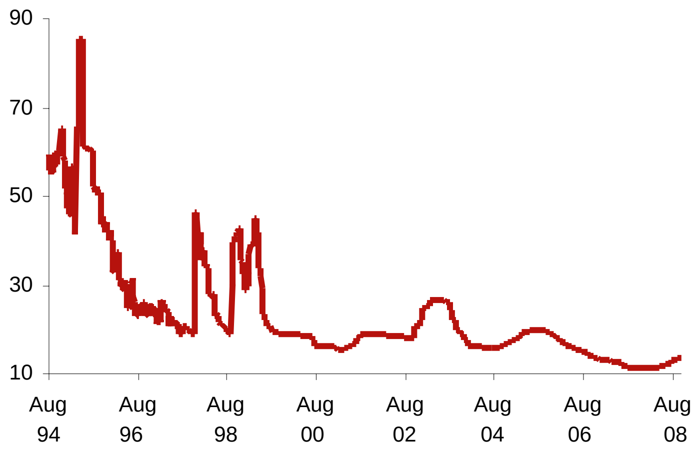
Brazil's achievement of macroeconomic stability and its success in strengthening its resilience to external shocks help explain the growth of the country's attractiveness as a destination for foreign capital flows.

Macroeconomic stability is a key precondition for sustainable growth. In that regard, the performance of monetary policy under the inflation targeting (IT) framework plays an important role. Brazil adopted IT in 1999 and has managed to keep inflation within its specified tolerance band during the past five years.[13] That success has allowed relative prices to function as effective signals for economic decisions, including for long-term planning. In this context, by using IT rather than a nominal exchange rate anchor, Brazil's monetary policy has become increasingly more efficient in controlling inflation. That is, smaller increases in the policy rate have had stronger effects on expectations and pricing behaviour (see Graph 3 for the decrease in overnight interest rates and Graph 4 for the reduction in 12-month accumulated inflation).

Graph 3

Basic short-term interest rate target (Selic)

In per cent per year

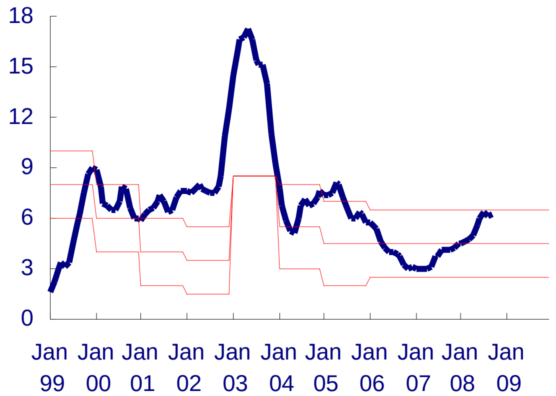


[13] For recent developments, see A Bevilaqua, M Mesquita and A Minella (2008): "Brazil: taming inflation expectations", *BIS Papers*, no 35, Basel, January 2008.

Graph 4

Evolution of inflation (Ample consumer price index)

In per cent per year



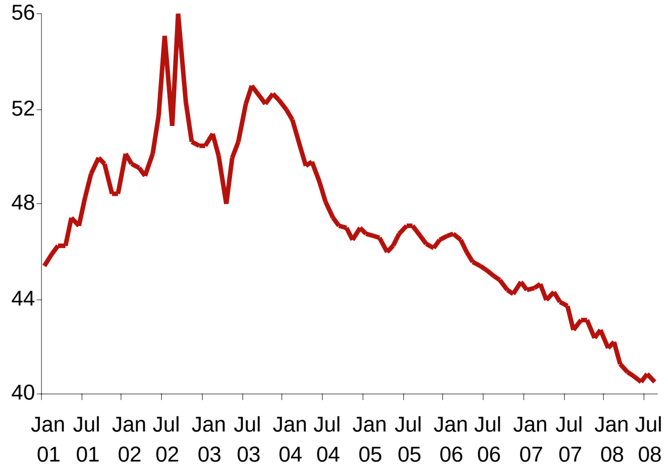
Note: the red lines are the inflation target (middle) and the limits of the tolerance band. In Brazil the IT is currently at 4.5% +/–2pp.

Lower risk premia also reflect a fiscal policy committed to paring down net public indebtedness as a share of GDP. To that end, the government has been announcing and delivering primary fiscal surpluses since the end of the 1990s. Thus, net public sector debt peaked at 56% of GDP in 2002 and fell to 43% by December 2007 (Graph 5). Market projections suggest that it will fall to 35% by 2012.

Graph 5

Ratio of net public sector debt to GDP

As a percentage of GDP



These measures paved the way for a sustained acceleration of growth. Up to June 2008, the Brazilian economy had been growing at an average annual rate of 4.6% for 11 quarters (quarter over quarter, seasonally adjusted). The trend was supported essentially by external demand until 2005. Since then, domestic demand, reflecting strong increases in consumption and investment, has become the major driver of the economy. That changeover happened without any decrease in exports, which continued to grow at an annual rate of 18.5%.

Although export growth has been stimulated by the rise in commodity prices, especially for grains and metals, about half of Brazilian exports are manufactured goods. That, in turn, should mitigate the impact of swings in commodity prices on the value of total exports. Moreover, the destinations of Brazil's exports are fairly diverse: Latin America buys 22.7% of the country's exports, while Asia buys 15.7%, the United States 15.8% and the European Union 25.2%. However, despite the strong growth in international trade in the past few years, Brazil is still a very closed economy, as imports and exports are equivalent to just 21.4% of GDP. This feature of the economy has long been seen as an impediment to faster economic growth, but it should mitigate the impact of a global slowdown on aggregate demand.

Robust growth of domestic demand has been supported by rising income levels and fast credit expansion. Unemployment rates have been on a downward trend and reached 7.6% (seasonally adjusted) in August 2008, the lowest level since 2002; average real income growth in the past 12 months has been 6%. Moreover, since 2005, credit to households has been growing at an average annual rate of 31.3%, while bank lending to enterprises has been expanding at a rate of 28.4%.

One aspect that should be stressed is the resilience of the Brazilian financial sector since the restructuring of the system in the second half of the 1990s. Macroeconomic stabilisation, and consequently the end of high inflation, induced a rapid overhaul of the system. The banks that were unable to adjust, especially three large private sector banks, became the core of PROER (the Programme of Incentives for Restructuring and Strengthening the Financial System). Moreover, two federal banks and two federal development banks were placed under enhanced supervision by the central bank, which showed the need for larger provisions and adjustments for capital adequacy. Finally, banks owned by the states were streamlined through PROES (the Programme of Incentives for the Reduction of the Role of the State in Banking), restructured and privatised.[14]

The growth of the domestic market, combined with the increased predictability of policies and of the domestic economy, has made Brazil more attractive for international investors and favoured the increase in foreign capital flows. But the upswing in commodity prices has also played an important role: 38.7% of gross FDI inflows in 2007–08 have been in commodity or commodity-related sectors.

Moreover, the government has actively pursued policies aimed at reducing the economy's vulnerability to shocks. The Treasury, which is responsible for managing the federal public debt, has been implementing a programme to withdraw exchange rate linked securities, increase the share of fixed rate instruments and lengthen the tenor of the public debt (Graph 6). As of the beginning of 2000, public debt indexed to exchange rate variation increased substantially, reaching 38% of total public sector domestic debt in October 2001.[15]

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[14] A longer explanation is available in I Goldfajn, K Hennings and H Mori, "Financial system in Brazil: resilience to shocks, preserving real value, and struggling to promote growth", *Central Bank of Brazil Working Paper Series*, no 75, June 2003; and in G Maia, "Restructuring the banking system – the case of Brazil", *BIS Policy Papers*, no 6, Basel, August 1999, pp 106–23.

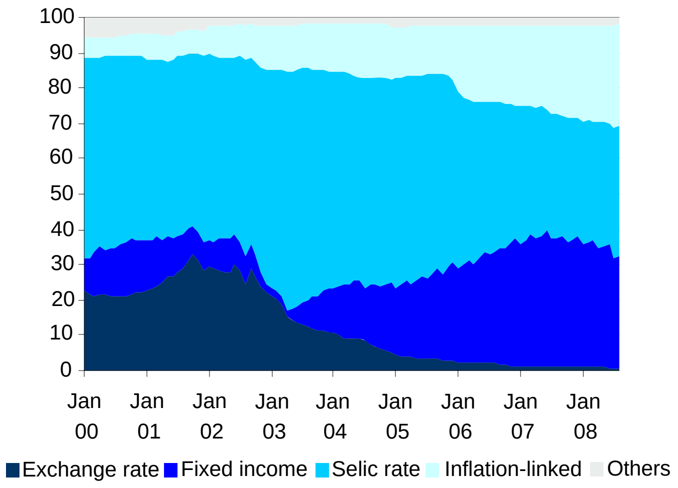
[15] The impact of the public securities linked to exchange rate variation on the net public sector debt to GDP ratio is explained in I Goldfajn, "Are there reasons to doubt fiscal sustainability in Brazil", *BIS Papers,* no 20, Basel, October 2003.

Since 2003, the government has bought back all these securities, totalling USD 81.3 billion. In 2002, in the context of the confidence crisis, the central bank sold foreign exchange swaps, in which the monetary authority was long domestic currency and short US dollars. The appreciation path of the domestic currency after the overshooting in 2002 favoured the exchange of the swap contracts for reverse swap contracts, in which the central bank was long US dollars. As a result, a depreciation of the real, say in a global stress scenario, would lead to an improvement in public finances rather than a deterioration (Graph 7).[16]

Graph 6

Composition of federal public debt securities

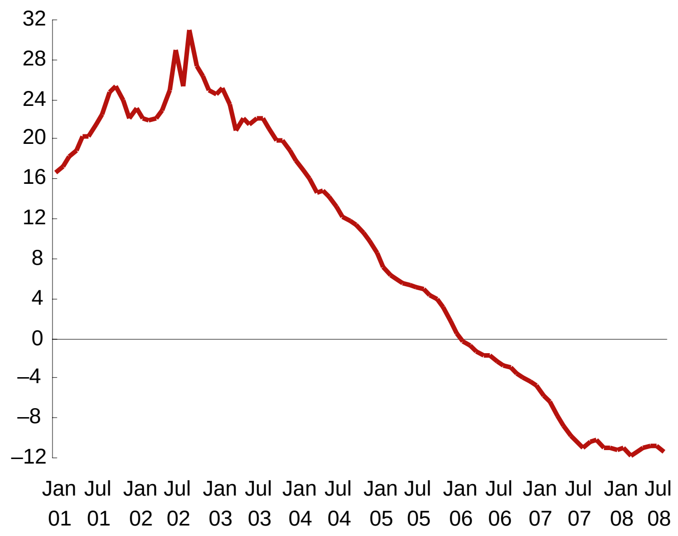
In per cent



Graph 7

Effects on federal public debt of a 1% change in the exchange rate

In basis points



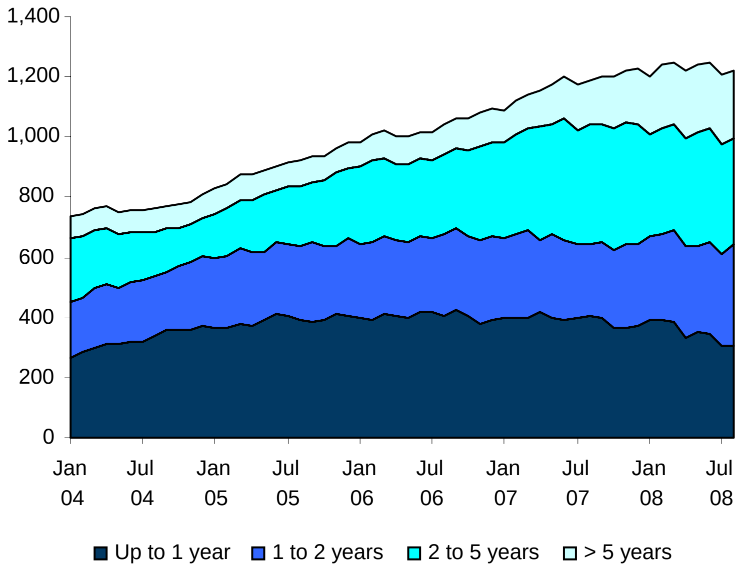
[16] Thus, the net debt to GDP ratio has improved 1.5 percentage points since end-August 2008 thanks to BRL depreciation.

Another important improvement was the extension of the domestic public debt yield curve through the issuance of longer-dated securities and the creation of markets for those assets. The lengthening of the maturity of the debt implies lower rollover risk, hence lower overall macroeconomic risk. At the end of 2002, the average tenor of domestic public debt was 21.8 months. By December 2007, it was 33.1 months (Graph 8).

Graph 8

Maturity structure of federal public securities debt

In billions of reais



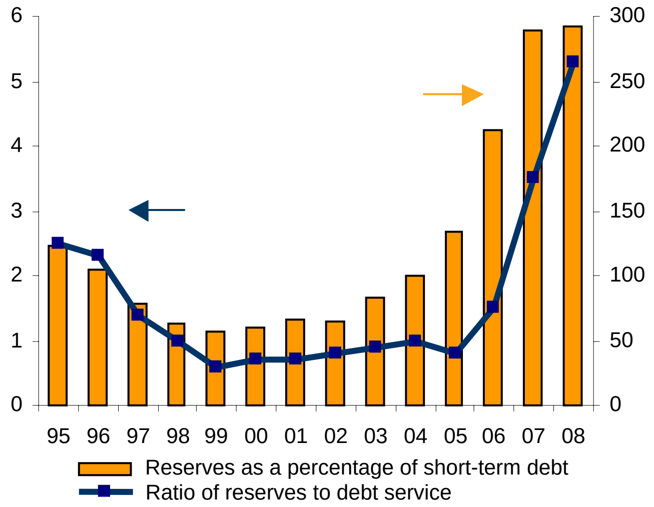
In addition to domestic debt restructuring, the government and the central bank adopted a policy to increase the resilience of the economy to external shocks. This policy included prepaying of the IMF and Paris Club debt, buying back external public securities issued in the context of the early 1990s rescheduling of debt, increasing international reserves via the purchase of foreign currency in the domestic market, and acquiring foreign currency for debt service purposes in domestic markets instead of using international reserves.

The policy for accumulating foreign exchange reserves was announced in January 2004. Under the policy, through fully sterilised intervention, the central bank bought USD 139.7 billion in the domestic market over the next four years; at the end of 2007, international reserves were USD 180.3 billion. The policy did not impinge on exchange rate flexibility: at the inception of the policy, the exchange rate was BRL 2.93 to the dollar, and it fell, not monotonically, to BRL 1.78 to the dollar by the end of 2007. US dollar purchase auctions have been undertaken at current market prices so as not to influence the exchange rate path. The central bank has also managed the process so as not to add to market volatility.

These measures influenced the behaviour of capital flows: amortisation outflows increased in 2004 and 2005, and the build-up of foreign exchange reserves contributed materially to Brazil's achievement of investment grade status. Gross external debt fell from more than 30% of GDP in 2004 to 14% in 2007 (Graph 10). With the decline of external debt and the increase in international reserves, the ratio of *net* external debt to GDP moved from 20.4% in 2004 to –0.9% at the end of 2007. The ratio of international reserves to short-term debt, considering payments due within 12 months, grew from 99% in 2004 to 290% in 2007 (Graph 9).

Graph 9

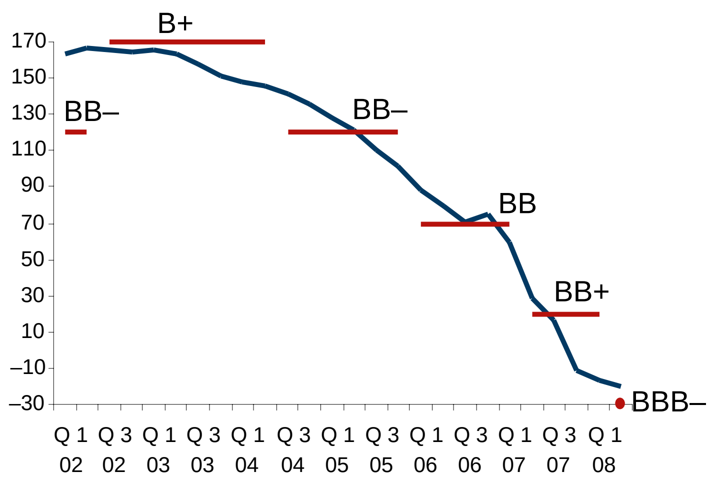
Indicators of external vulnerability



Graph 10

Net external debt and S&P ratings

In billions of US dollars



3. Conclusion

The capital and financial accounts of Brazil's balance of payments have changed in important ways in the past few years. FDI, private equity and equity portfolio inflows have increased in relative importance, whereas debt has declined – FDI, as shown in Table 7, has historically been more resilient in crisis periods than other sources of funding. The country as a whole has deleveraged through a process led by the public sector. Outflows have also increased, especially of FDI, as large Brazilian corporations developed their overseas operations, mostly through mergers and acquisitions.

Overall, these developments should make the economy more resilient to external shocks. primarily because its external funding needs are smaller – 2.8% of GDP at end-2007, compared with 10.6% at the end of 2001. Moreover, within the set of net external liabilities, the dominance of equity capital (both FDI and portfolio) means that profit and dividend remittances replace debt service payments as key drivers of the current account balance.

Profit remittances are much more sensitive to the state of the domestic business cycle and to exchange rate movements than are interest payments. These outflows increased from an annual average of USD 3.8 billion in 1995–2002 to USD 10.1 billion in 2003–07 and reached USD 17.9 billion in 2007. This behaviour can be attributed to the high level of corporate profits in Brazil – thanks to the economic upswing – combined with appreciation of the Brazilian real. It is reasonable to expect, on the other hand, that in periods of economic difficulty, domestic currency weakness or both, profit remittances will tend to be smaller. It pays, in this sense, to tap foreign savings in the form of equity rather than debt.

Table 7

Capital flows in periods of stress

Monthly averages, in millions of US dollars

Crisis	Time period	FDI	Portfolio	Credit
Mexican	Jan–Jun 1995	258.32	–392.49	1,541.12
Asian	Jan–Jun 1997	1,297.96	1,027.24	225.15
	Jul–Dec 1997	1,867.53	–150.95	236.57
Russian	Feb–Jul 1998	2,038.83	1,456.71	3,722.58
	Aug 1998–Jan 1999	3,134.33	–2,281.84	438.33
Brazilian	Jan–Jun 1999	2,215.00	130.00	–1,843.00
9/11	Mar–Aug 2001	1,856.92	235.67	1,296.55
	Sep 2001–Jan 2002	1,832.61	58.47	508.47
Confidence	Apr–Oct 2002	1,316.42	–89.11	1,158.50
Subprime	Jan–Jun 2007	3,475.38	3,349.30	5,921.78
	Jul–Dec 2007	2,288.77	4,433.88	–434.04

The Brazilian economy has faced at least five international and domestic shocks in the past decade: the Asian crisis, the Russian crisis, the devaluation of the real, 9/11, the Argentine crisis, the pre-electoral crisis in confidence, and now the subprime crisis. All of them led to an increase in the risk aversion of international investors and the sell-off of public bonds in international markets, which in turn led to sudden stops in capital flows. Those stops were magnified within Brazil by the foreign exchange exposure of the public sector.

In the past few years, the authorities have managed, chiefly through the accumulation of foreign exchange reserves, to take advantage of the favourable external environment to address the issue of foreign exchange exposure. Nowadays, in contrast to the 1990s, the public sector is a structural net creditor in foreign exchange. This means that a turn to unfavourable conditions – say, a worldwide increase in risk aversion, which may lead to depreciation of the Brazilian real – would result in a *falling* ratio of net public debt to GDP. Thus, the public sector can act as a shock absorber rather than a multiplier. In fact, as seen in Table 8, the economy has indeed become more resilient in the past few years and was relatively unaffected by the global financial turmoil during 2007.

Table 8

Macroeconomic and financial variables in periods of stress

	Period	Exchange rate (BRL/USD) (% change)		Interest rate (Selic) (change, in basis points)		Share Equity Price Index (IBOVESPA) (% change)		International reserves (change in USD billion)		EMBI (change in basis points)	
		Max	Six months after	Max	Six months after	Max	Six months after	Max	Six months after	Max	Six months after
Mexico	Jan–Apr 1995	8.2	7.1	3,557	3,557	–46.8	–26.5	–6.91	–5.29	832	249
Asia	Jul–Dec 1997	3.6	3.6	1,994	2,549	–35.7	–21.0	–5.58	–5.44	377	130
Russia	Aug 1998–Dec 1999[1]	3.8	3.8	2,308	933	–55.6	–34.5	–29.02	–25.65	1,042	923
Brazil	Jan–Jun 1999	77.1	46.9	803	–800	–26.9	60.0	–10,708	–3,210	549	–240
9/11	Sep 2001–Feb 2002	12.0	–4.41	10	–21	–23	1.2	–0.433	–0.393	301	–116
Confidence	Apr–Oct 2002[2]	68.6	63.5	221	221	–39.3	–32.5	–3.83	–0.866	1,731	1,742
Subprime	Jul–Dec 2007	5.0	–7.6	75	75	–10.9	16.7	33,233	33,233	97	56

[1] Window of five months because the exchange rate regime in Brazil was changed from a managed exchange rate to a floating regime. [2] Window of seven months because the crisis peaked in October.

Brazil is a commodity-producing and -exporting economy (although exports of manufactured goods are sizeable). Commodity-related capital flows are also large; historically, they have been correlated positively with the terms of trade and thus have magnified the impact of commodity price shifts on the balance of payments. Under these circumstances, there are clear benefits from having an adequate stock of foreign assets, in the form of central bank reserves or in alternative vehicles, so as to buffer the effects of commodity price swings on the economy. Thus, accumulating foreign reserves – while preserving foreign exchange flexibility – is prudent not only from a fiscal viewpoint but also in a wider macroeconomic sense.