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Building resilience to international financial crises: lessons from Brazil

André Filipe Zago de Azevedo Paulo Renato Soares Terra

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Building resilience to international financial crises: lessons from Brazil

Resilience to international crises

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André Filipe Zago de Azevedo

Universidade do Vale do Rio dos Sinos (UNISINOS), São Leopoldo, Brazil, and

Paulo Renato Soares Terra

School of Management, Universidade Federal do Rio Grande do Sul (UFRGS), Porto Alegre, Brazil

Abstract

Purpose – This paper sets out to argue that, due to a stable set of economic policies over the past decade, today Brazil is much more resilient to international financial crises than in the 1990s.

Design/methodology/approach – The paper presents preliminary macroeconomic data in a country case study.

Findings – The paper concludes that the initial impact of the current international financial crisis on Brazil has been much less severe than similar crisis episodes in the past.

Research limitations/implications – Given that the crisis is still unfolding, the paper presents only preliminary data regarding its impact on emerging markets.

Practical implications – The paper suggests that emerging markets should adopt flexible exchange rate regimes and stable macroeconomic policies as a means to reduce their exposure to international shocks.

Originality/value – The paper makes an initial diagnosis regarding the impact of the international financial crisis on emerging markets that have adopted sensible economic policies, and is of interest to scholars, business people, and policymakers in developed and emerging countries.

Keywords International finance, Financial markets, Emerging markets, Brazil

Paper type Viewpoint

1. Introduction

Some analysts point out that the current financial crisis may be the most serious since the Great Depression of the early 1930s – or even more serious than that. Others argue that it should be at least deeper than those which occurred in the 1990s. Although it is too early to assess its full impact on the economy, it has resemblances to previous crises. First, like the 1929 crisis, it had its epicenter in developed countries. Second, it is systemic, since the initial turmoil was transmitted to many markets and virtually all countries[1]. Shortly after its onset, the ongoing financial crisis has tumbled stock markets across the world and dumped other currencies against the US dollar, as investors reduce the riskiness of their portfolios and “flee to quality”, with money moving towards US assets, in particular Treasury bonds. Soon after, credit markets became blocked as banks and financial institutions were unwilling to lend to one another due to the risk of default. Following these short-run events, the crisis may damage the real economy, reducing the pace of economic growth in both developed and developing countries.



This paper aims to describe these recent effects on emerging markets, with emphasis on the Brazilian economy, comparing the evolution of these indicators in this crisis with the Mexican and Asian crises of the 1990s. In our view, the impact of the current financial crisis on the real Brazilian economy is likely to be much less severe than during the 1990s financial crises. There are two major reasons that explain this resilience:

- (1) the flexible exchange rate regime; and
- (2) the adoption and, perhaps more importantly, the maintenance and improvement of the same set of economic policies for over a decade.

The current floating exchange rates will absorb most of the shock waves caused by the crisis and channeled into the Brazilian economy through its external financial and trade linkages. Moreover, Brazilian external sustainability has been improving throughout the years due to a set of policies including higher diversification of markets for exports and increased external solvency.

The remainder of the paper is divided into three sections. Section 2 presents a brief summary of the theories and empirical regularities of financial crisis. Section 3 analyses the short- and medium-term impacts of the current financial crisis with emphasis on the Brazilian economy, comparing this crisis with those that occurred during the 1990s. The last section offers some concluding remarks.

2. Theories and empirical regularities of financial crises

Financial crises are not all created equal: there are at least three different types of financial crisis. The first type is the banking crisis, in which a run of depositors on the banking system leads to a systemic liquidity failure. The second type is the balance-of-payment crisis[2], in which a run on a country's reserves leads to sudden depreciation of the national currency or foreign debt default. The third type is the asset price crisis, in which inflated asset prices (the "bubble") are reassessed by investors, causing a run on those assets. Each type of crisis is summarized below.

2.1 Banking crises

Banking crises are a fairly common event in economic history[3]. In particular, crises in developing (mainly transition and emerging) economies have become an important topic in the research agenda of both academic and policymaking milieus. This is not only because such crises cause severe real economic costs and hinder development in the affected countries, but also because financial crises have become more frequent and disseminated as international financial markets become more integrated.

Because one of the main functions of the banking firm is liquidity transformation, they are naturally vulnerable to generalised withdrawals by depositors. Diamond and Dybvig (1983) presented a theoretical framework for banking crises as a result of asymmetric information. If depositors' expectations are that a bank may become insolvent, then as they rush to be the first in line to withdraw their funds, the bank will become illiquid. Moreover, if depositors interpret the run on a given bank as a signal that the whole banking system is illiquid, then a systemic banking crisis may result as sound and unsound banks cannot be discriminated. Eichengreen *et al.* (1998) point out other possible channels for banking crises, such as balance-of-payment crises[4] and

moral hazard stemming from guarantees such as implicit government guarantees and deposit insurance schemes.

2.2 *Balance-of-payment crises*

Balance-of-payment crises are characterized by a run on a country's reserves. Such episodes have been extensively studied in the literature. Although the literature refers to different theoretical models of crisis as different "generations", we prefer to follow the simpler classification given by Eichengreen *et al.* (1998), who distinguished between crises caused by inconsistent policies and crises occurring in the presence of consistent policies[5]:

- *Balance-of-payment crises under inconsistent policies* – In such models, balance-of-payment crises arise from the government objective of sustaining a fixed exchange rate while pursuing expansionary monetary policy. Free capital mobility will offset any attempt to set interest rates differently from international levels. If the government tries to pursue an independent monetary policy, then the exchange rate will be under pressure. Attempts to sustain the exchange rate will run down international reserves till the point in which the government is forced to devalue. Krugman (1979) and Flood and Garber (1984) present the seminal work on this type of crisis.
- *Balance-of-payment crises under consistent policies* – The empirical observation that even economies with sound policies have been subject to balance-of-payment crises lead to the development of alternative models to explain such phenomena. Multiple equilibria models predict that if sustaining the parity is costly even for a well-behaved government, then there might exist an adverse equilibrium in which the optimal response of speculators is to bet against the currency and the crisis becomes self-fulfilling. Obstfeld (1986) proposes such dynamics formally. Other types of crises under consistent policies rely mostly on information asymmetry effects such as moral hazard and adverse selection[6].

The balance-of-payment crisis literature is rich and, as noted by Rodrik (1998), every new crisis in the past 20 years has spawned a whole new generation of economic models explaining the crisis that has just happened – but unable to explain or predict the next one. His conclusions are that if we are forced to look for a new series of policy errors each time a crisis hits, we should be extremely cautious about our ability to prescribe a policy regime that will sustain a stable system of capital flows.

2.3 *Asset price crises*

An empirical observation is that financial crises often follow a period in which asset prices rise sharply and then collapse, and one may classify such crises as asset price crises[7]. Allen and Gale (2000) describe such crises as having three distinct phases:

- (1) *Inflating the bubble* – The first phase is characterized by a rapid expansion in credit, which may result from a policy shift from the central bank or a structural change such as financial liberalization. The increased liquidity is accompanied by an increase in assets that are in fixed supply in the short-run, typically stocks and property. The price of such assets is bid up in a spiral that can continue for some time, inflating the bubble.

- (2) *Bursting the bubble* – The second phase is characterized by an exogenous event that precipitates the bursting of the price bubble. It can be a change in the real economic environment such as the price of an international commodity like oil or a slump in real activity. Also, the trigger can be a shift in lender sentiment regarding the interest rate and the level of credit available in the financial system. Alternatively, changes in the political balance of power or social unrest can cause a change in investor expectations that fires an asset sell-off.
- (3) *Ensuing financial crisis* – The final phase is characterized by generalized default. Many debtors that have borrowed to buy assets at inflated prices cannot honor their obligations, compromising the soundness of the banking sector. Depending on the severity of the default, a systemic banking failure and/or a balance-of-payment crisis may follow, and the real sector of the economy is affected.

Several theoretical studies have been proposed to explain bubbles. Although some approach their existence as a result of irrationality (e.g. De Long *et al.*, 1990), a number of authors have explained bubbles as an outcome of rational behavior (e.g. Blanchard and Watson, 1982), given some market imperfection like asymmetric information.

Allen and Gale (2000) propose a model in which bubbles and the ensuing financial crises are the result of the risk shifting problem between lenders and borrowers. In their setting, it is not simply the level of credit that is important in bursting the bubble, but also the uncertainty of its future levels. Two points of their analysis are particularly remarkable:

- (1) financial liberalization often becomes a major factor leading to such uncertainty; and
- (2) banking and balance-of-payment crises are often triggered by the asset price crisis.

We discuss the interdependence among these three types of crises next.

2.4 “Twin” and “triplet” crises

In the recent experience of international finance, many countries that have experienced a balance-of-payment crisis have also had a domestic banking crisis around the same time. This empirical regularity raised the question of the extent to which the two are linked together, hence the term “twin crises”. While theoretical and empirical work on the causes of each type of crisis generated a prolific literature[8], their interaction has been subject of less attention. In a well-known paper, Kaminsky and Reinhart (1999) draw from this literature three hypotheses concerning the chain of causation between these events:

- (1) *Balance-of-payment crises cause banking crises* – Because the government commitment to some nominal standard (i.e. the exchange rate) makes the financial sector magnify real shocks to the economy. This is so because the loss of international reserves that follows the attempt of the government to defend the currency result in a credit crunch that gives rise to increased bankruptcy in the private sector, rendering banks with a stock of non-performing loans and a full-fledged banking crisis ensues.

-
- (2) *Banking crises cause balance-of-payment crises* – Because as the central bank intervenes in the banking sector to bail out troubled financial institutions, its ability to sustain the exchange rate commitment erodes. If the central bank finances the bailout by printing money, the standard first-generation model of crisis result (Krugman, 1979); if instead the central bank finances it by issuing debt, the expectation of future monetization may make the crisis self-fulfilling (Obstfeld, 1986).
- (3) *Common factors[9] cause both balance-of-payment and banking crises* – There is no reason to expect one type of crisis to anticipate the other. Since the fundamental problems are created at the same time, which crisis erupts first is a just matter of circumstance. For instance, foreign exchange rate-based stabilization plans embody the commitment of the government in sustaining some parity that restricts the role of the central bank as a lender of last resort for the domestic financial sector. At the same time, the government commitment serves as an implicit (or even explicit) guarantee that discourages borrowers to hedge their foreign currency exposure. When either type of crises erupts, it triggers the other.

In their empirical investigation, Kaminsky and Reinhart (1999) indeed find that banking crises help in predicting balance-of-payment crises, but the converse is not true. However, financial liberalization helps in predicting banking crises so that rather than a causal relationship from banking to balance-of-payment crises, the evidence suggests instead that common causes characterize these events[10]. Eichengreen *et al.* (1998) survey the literature on the causal relationship between financial liberalization and the various types of crises and conclude that there is no definite empirical evidence that freer capital flows cause crises, although the vulnerability to previous systemic deficiencies seem to be amplified.

2.5 Economic indicators and financial crises

The real effects of financial crises may be felt in a wide range of economic indicators. However, many studies in the causes and consequences of crises have narrowed the number of relevant economic indicators to a relatively small number. Although the consistency of such indicators across different types of crises is questionable, especially in terms of their predictive ability (see International Monetary Fund, 1998, chapter IV), such indicators do illustrate the consequences of financial crises in a summarized fashion. A number of papers have embraced such task (e.g. Sachs *et al.*, 1996; Gavin and Hausmann, 1996; Kaminsky, 1998; Eichengreen, 1999; Eichengreen and Rose, 2004, among others).

In the short term, financial crises are characterized by sudden drops in the stock market, reflecting the change in economic agents' sentiment regarding the future prospects of the afflicted economy. Risky financial assets in general lose value at the onset of a crisis, or even shortly before it, as investors reassess their expectations in light of new information or a specific triggering event[11].

Moreover, the domestic currency also loses value as international investors' risk aversion increases during crises episodes, prompting them to rebalance their portfolios towards less risky assets, usually developed countries' government bonds. In a financially integrated environment, such flight to quality causes a fire sale of domestic

assets and increased demand for foreign currencies, usually the US dollar. Such a chain of events translates into a depreciation of the domestic currency in a flexible exchange rate regime, and intervention of the central bank in a more rigid exchange rate regime. Central bank intervention takes the form of sales of reserves in order to defend the domestic currency – which erodes the country’s foreign reserves – and/or sharp increases in the interest rates – which reduces real activity in the medium term.

In the medium term, the consequences of financial crises are felt in a reduction in real activity, either by the aforementioned rise in interest rates or by a reduction in the availability of private credit due to the flight to quality of domestic investors and systemic fears of bankruptcy in the banking system.

3. Case study: Brazil and the current international financial crisis

Brazil has been hit by various international financial crises in the past decades[12]. Two of the most serious were the Mexican crisis (also known as the “Tequila Crisis”) of 1994-1995 and the Asian crisis (also known as the “Asian Flu”) of 1997. In this section, we compare some economic indicators around the onset of such crises with the current international crisis.

3.1 Short-term evidence

As usually occurs after the beginning of a financial crisis, stock markets tumbled around the world since last September, when the current international crisis spread in two directions:

- (1) across the Atlantic to Europe and Asia; and
- (2) from the financial markets into the real economy[13].

Initially, the stock market plunge could still be associated with worries about the health of large banks, after a warning that more credit-crunch related losses could lie ahead, reflecting that the crisis in the subprime mortgage lending market was leading to a more generalized credit crisis. During September, although generalized, the decline in stock markets was not so impressive, with losses in most markets not exceeding 10 percent (Table I). In October, however, in all major developed and developing countries stocks declined more significantly, as the continuous drop in stock markets across the globe also reflected dreadful economic figures, as a recession in the developed world and an economic slowdown in developing countries seemed inevitable, lowering expected profits in 2009. As a result, from early September to the end of October stock markets in Russia, Argentina and Turkey, for example, fell by more than 35 percent[14]. In developed countries the drop ranged from 26 percent in the USA to 31.6 percent in Japan.

Comparing the effect in the stock market in Brazil of the current crisis with those that happen during the 1990s, one can see that the recent plunge in the stock market two months after its onset is not unprecedented. Although Brazil is one of the countries that suffered most from the subprime crisis regarding the decline in stocks, during the same period after the Mexican crisis they plunged even more, reaching 38 percent (Table II). So far, one would expect the main channel through which the likely fall in capital inflows would impact Brazil to be via the stock market. Although about one-third of Brazilian shares are foreign-owned, most are still domestically held, and

Country	One-month change (%)	
Russia	-25.2	-58.1
Argentina	-8.7	-46.5
Turkey	-10.6	-36.5
Brazil	-7.0	-34.5
India	-13.3	-32.4
Indonesia	-13.4	-31.9
Japan	-10.4	-31.6
Canada	-10.8	-29.7
Mexico	-5.1	-29.0
Euro zone	-10.0	-28.5
Thailand	-8.5	-28.4
USA	-6.1	-26.1
South Korea	-0.9	-20.5
China	-0.8	-16.7
Chile	-3.8	-15.2
Venezuela	-7.0	-10.7

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Table I.
Stock market changes
following the current
subprime crisis

Source: *The Economist* (2008)

Period	Mexican crisis		Asian crisis		Subprime crisis	
	One-month change (%)	Two-month change (%)	One-month change (%)	Two-month change (%)	One-month change (%)	Two-month change (%)
Brazilian Bovespa	-19.5	-38.3	-9.4	-16.6	-7.0	-34.5

Source: IPEADATA (available at: www.ipeadata.gov.br/ipeaweb.dll/ipeadata?SessionID=1047073417&Tick=1226614506234&VAR_FUNCAO=RedirecionaFrameConteudo%28%22iframe_dados_m.htm%22%29&Mod=M)

Table II.
Stock market changes

consequently there will be a reduction in consumption and investment due to the wealth effect and the increased cost of capital, respectively.

With regard to exchange rates, the intense demand for US assets caused a sharp appreciation of the US dollar in relation to most currencies. During the 12 months to October 2008, it is possible to note two different phases. From October 2007 to September 2008, there was a mixed picture, with some currencies showing an appreciation and others a depreciation against the US dollar. The Brazilian *real*, for example, registered an appreciation of about 7 percent in this period (Table III). The same phenomenon occurred with other developing countries' currencies, for example in Argentina, Mexico and Venezuela. However, the situation changed dramatically in October, when most currencies experienced a sharp decline against the US dollar. This trend was more intense in relation to some currencies, including the Brazilian *real*, which showed the largest depreciation, 42 percent in that month, turning a small appreciation into a depreciation of 32 percent in the last 12 months.

This recent trend in exchange rate markets occurred as the financial crisis broadened and intensified, reflecting a short-run "flight to quality" movement, usual in

Country	October 2007- September 2008 (%)	September 2008- October 2008 (%)	October 2007- October 2008 (%)
South Korea	-25.44	-21.41	-52.29
Brazil	+7.22	-42.51	-32.22
Chile	-4.02	-19.34	-24.14
India	-12.98	-8.11	-22.14
Mexico	+3.70	-25.00	-20.37
Turkey	-1.68	-16.53	-18.49
UK	-14.29	-3.57	-18.37
Canada	-8.16	-5.66	-14.29
Venezuela	+7.80	-19.23	-9.93
Indonesia	-1.45	-4.27	-5.79
Russia	-1.20	-3.57	-4.82
Euro zone	+2.82	-5.80	-2.82
Argentina	3.48	-5.57	-1.90
Thailand	-0.29	+0.87	+0.58
China	+8.92	+0.29	+9.19
Japan	+7.69	+7.41	+14.53

Table III.
Exchange rate changes
against the US dollar

Notes: Exchange rate appreciation against the US dollar: + sign; exchange rate depreciation against the US dollar: - sign

Source: *The Economist* (2008)

periods of economic uncertainty, as described in the previous section. Whether this situation is to be maintained remains to be seen, but its effects on the real economy are likely to be quite different from the 1990s crises in Brazil. As the next section will show, during that period Brazil adopted a pegged exchange rate regime (during both the Mexican and Asian crises), so when the crisis began the government was forced to defend its currency by reducing foreign reserves and “dramatically” increasing interest rates, slowing down the economy[15]. Given the current floating exchange rate regime in Brazil, the sharp depreciation of the *real* against the US dollar will not cause such a surge in interest rates as occurred in the 1990s.

3.2 Medium-term expectations

One of the most likely effects of the ongoing financial crisis is the reduction of economic growth prospects in the medium term. As mentioned earlier in this paper, financial crises contract economic activity, either through rising interest rates or by reducing the availability of private credit due to the flight to quality and systemic fears of bankruptcy. By reducing credit, the current international crisis should lead to a decrease in investment and consumption, notably in 2009. Growth expectations for 2008-2009 have already deteriorated dramatically in the last months. Most developed and emergent economies will grow less in 2009 than they did in 2007 (Table IV). While most developed countries, including the USA, The European Union and Japan, should experience a recession in 2009, some emerging economies will only experience a slowing down in economic growth. In some emerging countries, however, the expected absolute decrease in growth is significant in the period 2007-2009, especially in

Country	2007 (%)	2008 (%) ^a	2009 (%) ^a	2009/2007 change (%)
Venezuela	7.9	5.2	3.0	4.9
Argentina	8.3	6.0	3.5	4.8
China	11.5	9.8	8.5	3.0
Brazil	5.4	5.2	3.4	2.0
Euro zone	5.4	1.2	0.6	2.0
Chile	2.6	3.6	3.6	1.8
USA	2.1	1.6	0.6	1.5
Japan	1.9	0.7	0.6	1.3
India	7.9	7.7	7.1	0.8
South Korea	5.0	4.4	4.2	0.8
Indonesia	6.2	5.8	5.5	0.7
Turkey	4.9	4.5	4.3	0.6
Russia	7.2	7.5	6.8	0.4
Malaysia	6.0	6.0	5.6	0.4
Canada	1.7	0.8	1.4	0.3

Notes: ^aPredicted values

Source: *The Economist* (2008)

Table IV.
GDP growth in selected countries

Venezuela (– 4.9 percentage points), Argentina (– 4.8 percentage points) and China (– 3 percentage points).

Although the crisis provoked an increase in the uncertainty about the impact on Brazilian growth, it is expected to reach 3.4 percent in 2009, two percentage points less than in 2007, most of this effect coming from the expected credit crunch. It is worth noting that the expansion of credit in Brazil has played a key role in increasing consumption since 2006. The total credit operations (from public and private sectors) reached 38 percent of the country's gross domestic product (or R\$ 1.1 trillion) in August 2008, well above the 32 percent observed one year earlier (Figure 1). Besides soaring credit, consumption has also been stimulated by falling unemployment, the increasing income of the workforce and interest rates being maintained at a relatively low level by Brazilian standards. This situation has allowed millions of Brazilians access to consumer goods, like cars, computers and TV sets, which they were unable to purchase until recently. However, the continuous increase in the base interest rate from 11.25 percent to 13.75 percent from April to September 2008 and the effects of the international crisis should change this scenario in the next months, reducing GDP growth prospects for 2009.

The preceding analysis showed that the current crisis should harm the Brazilian real economy less when compared with the developed world. In the case of Brazil, its external sustainability has been improving throughout the years, as a result of many factors, including higher diversification of markets for exports, increased external solvency and the adoption of a floating exchange rate regime. The process of diversification of markets for Brazilian exports has been pursued intensively since 2002. In that year, 62 percent of Brazilian exports were destined for developed countries, while the remaining 38 percent were sent to developing countries (Figure 2). In 2007, however, developing countries were responsible for purchasing half of Brazilian exports. As the financial crisis is prone to affect developed countries more

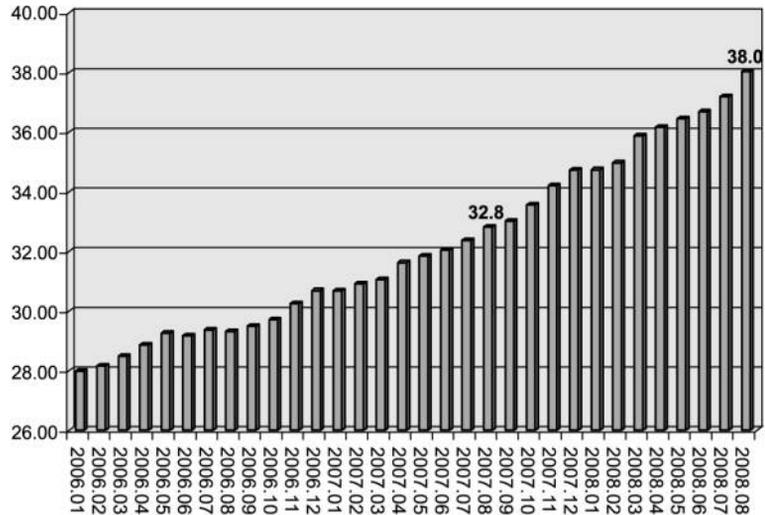


Figure 1.
Brazilian total credit operations (percentage of GDP)

Source: IPEADATA. Available at: www.ipeadata.gov.br/ipeaweb.dll/ipeadata?SessionID=1047073417&Tick=1226614506234&VAR_FUNCAO=RedirectoronaFrameConteudo%28%22iframe_dados_m.htm%22%29&Mod=M

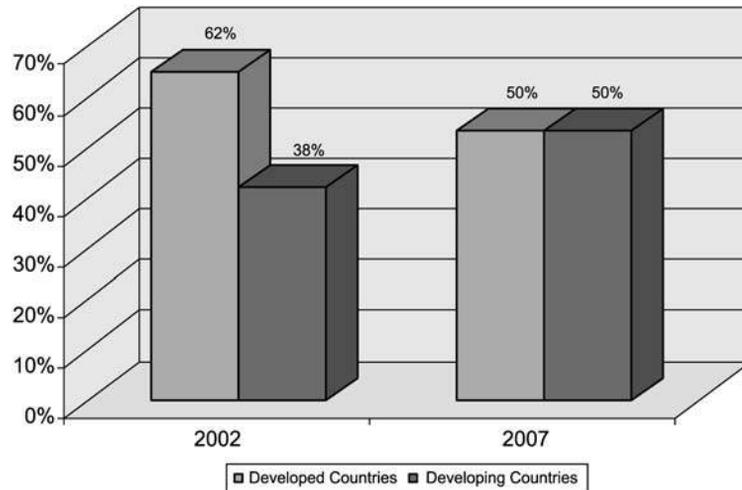


Figure 2.
Brazilian export destination countries (percent)

Source: Brazilian Ministry of Economy. Available at: www.fazenda.gov.br/

heavily, the increasing penetration of the country's exports in the developing world is likely to limit the impact of the financial crisis on Brazilian exports. Moreover, the recent depreciation of the national currency against the US dollar may offset the sharp drop in commodities prices, most of them exported by Brazil.

Besides the higher diversification of markets for exports, many indicators show an increase in Brazilian external solvency compared with the past. The total external debt

as a ratio of GDP, for example, declined from 41.2 percent in 2002 to 14.7 percent in 2007 (it is expected to decline further to 14 percent in 2008). This, alongside the recent increase in foreign reserves to above \$US200 billion, allowed the total net external debt as a ratio to GDP became negative (−0.9 percent) in 2007 (Figure 3). The improvement in these indicators was fundamental to allow Brazil to receive the investment grade by two independent credit rating agencies in early 2008. Furthermore, net foreign direct

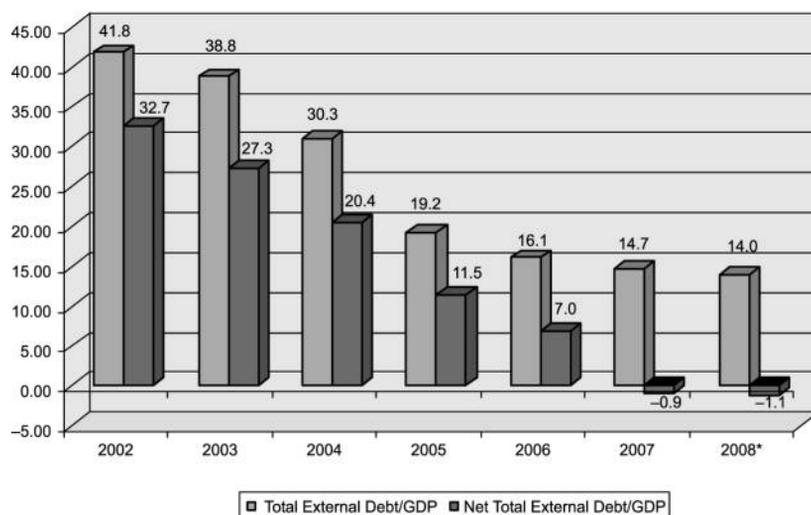


Figure 3. Brazilian total external debt (percentage of GDP)

Source: Brazilian Ministry of Economy. Available at: www.fazenda.gov.br/

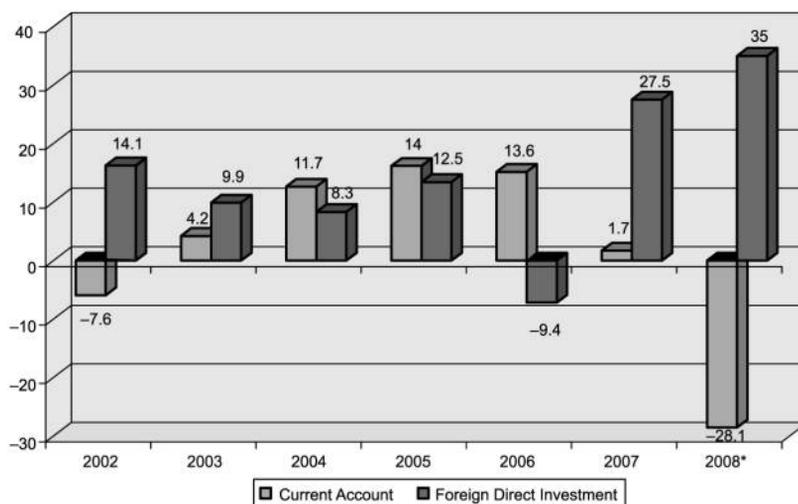


Figure 4. Foreign direct investment × current account (\$US, billions)

Source: Brazilian Ministry of Economy. Available at: www.fazenda.gov.br/

investment (FDI) is expected to reach \$US35 billion in 2008, limiting the potential damage caused by the increasing current account deficit in this period (Figure 4).

Finally, the current floating exchange rate regime adopted in Brazil, by reducing the effects of external crises on output, is another advantage compared with the pegged exchange rate regime implemented after the *real* stabilization plan in the second half of the 1990s[16]. Floating exchange rates allows the necessary adjustments via changes in the exchange rates instead of reducing foreign reserves and/or increasing interest rates as occurs with fixed or pegged exchange rate regimes. During both the Mexican and Asian crises, there was a significant increase in base interest rates in Brazil (SELIC rate[17]) in order to minimize foreign funds flowing out. Already sky-high interest rates were raised by seven percentage points to 57 percent in the aftermath of the Mexican crisis in 1995 and by an astonishing 19.5 percentage points to 40 percent following the Asian crises in 1997 (Table V). Obviously, those measures greatly slowed down GDP growth when they were implemented. In 1998, for example, while world GDP growth reached 2.8 percent, the Brazilian economy was stagnant (with GDP growth of only 0.1 percent).

Therefore, given the points mentioned above, although the Brazilian economy has already been affected by the current financial crisis, through stock markets, exchange rates and credit, it seems likely that this crisis will have a much more limited impact on Brazil's real economy than those of the 1990s.

4. Discussion and synthesis

We have argued that the real consequences of the current international financial crisis in Brazil should be substantially less severe than previous crises, despite the larger magnitude of the present crisis. Why is Brazil more resilient to these episodes today than it was in the past?

In our opinion, there are two major reasons that explain such resilience:

- (1) the flexible exchange rate regime; and
- (2) the adoption and, perhaps more importantly, the maintenance and improvement of the same set of economic policies for over a decade.

The floating exchange rates, as illustrated above, absorbs most of the shock waves caused by the crisis and channeled into the Brazilian economy through its external financial and trade linkages. Thus, the impact of the current financial crisis on the Brazilian real economy is likely to be much less severe than during the 1990s financial crises.

Crisis period	Mexican crisis		Asian crisis	
	Before	After	Before	After
Interest rate (%)	50	57	20.5	40
Change (%)		7	19.5	

Table V.
Interest rates in Brazil before and after the 1990s crises (annual rate)

Source: IPEADATA (available at: www.ipeadata.gov.br/ipeaweb.dll/ipeadata?SessionID=1047073417&Tick=1226614506234&VAR_FUNCAO=RedirecionaFrameConteudo%28%22iframe_dados_.htm%22%29&Mod=M)

Regarding the set of economic policies, president Luís Inácio Lula da Silva's government, now in its second term in office, maintained the guidelines of the economic policy unchanged, despite sharp ideological discordances with his predecessor, former president Fernando Henrique Cardoso. In particular, president da Silva kept the floating exchange rate regime, prioritized the federal fiscal balance orthodoxy, preserved the operational independence of the central bank in setting monetary policy under an inflation-targeting regime, and stimulated the internationalization of the economy through the expansion and diversification of international trade – in particular the “South-South” trade initiative – and multinationalization of Brazilian companies. Also of particular importance in this context, we underscore the approval of Complementary Act 101 in 2000 (Brazil, 2000), legislation that established limits to the fiscal discretion of the three levels of government (federal, state and municipal).

Considering the two terms that president Fernando Henrique Cardoso stayed in office from 1995 to 2002, at the end of the current term in 2010, Brazil will be under the same set of major economic policy guidelines for longer than any other period under democratic governments in its recent history. A positive effect of such stable set of policies – in conjunction with the favorable international economic environment during 2002-2007 – is the reduction of financial fragilities that had plagued the country in other periods of international financial turbulence.

Therefore, given the points mentioned above, although the Brazilian economy has already been affected by the current financial crisis, through stock markets, exchange rates and credit, it sounds likely that the crisis will have a much more limited impact on Brazil's real economy than those of the 1990s. The Brazilian experience may thus serve as a lesson to other developing countries that wish to overcome their financial fragility in an era of freer capital flows: adopt a clear, sound, and stable set of economic policies over the long term.

Notes

1. The International Monetary Fund (1998) defines systemic financial crises as potentially severe disruptions of financial markets that, by impairing markets' ability to function effectively, can have large adverse effects on the real economy.
2. The International Monetary Fund (1998) distinguishes between a currency crisis (devaluation or sharp depreciation of the currency) and a foreign debt crisis (default in the service of foreign debt). However, we follow the literature and adopt the more general term balance-of-payment crisis that encompasses both (sub)types of crisis.
3. For a more complete discussion of the causes of banking crises, please refer to Goldstein and Turner (1996) and Honohan (2000).
4. More on the relationship between banking and balance-of-payment crises can be found in section 2.4.
5. The first type of crisis corresponds to first-generation models of balance-of-payment crises, while the second type corresponds to second and more recent generations.
6. Such is the case of herding behavior from investors and contagion effects from other economies.
7. The increase in asset prices is usually referred to in the literature as a “bubble”.
8. For instance, the familiar topics of bank runs, bank panics, speculative attacks, and self-fulfilling crises, as seen above.

9. For instance, an asset price crisis. When that is the case, we use the terminology “triple crisis”.
10. The methodology employed by Kaminsky and Reinhart (1999) is rather unpretentious and takes into account only macroeconomic data of single countries. Certainly, there is room for improvement by employing microeconomic data such as banks’ balance sheet information and allowing for cross-country effects.
11. The triggering event could be an internal event such as a major policy change from the government, political instability in general, incapacity of the government to sustain the fiscal balance, or macroeconomic instability such as hyperinflation. Also, external events such as external changes in international liquidity, commodity price shocks that deteriorate the countries terms of trade, and contagion from crises in other countries are often listed as triggers to financial crises.
12. During the 1990s, Brazil was affected by the following major crises: Mexican (1994-1995), a domestic banking crisis (1995-1997), Asian (1997), Russian (1998), a domestic currency crisis (1999), and Argentina (2001-2002).
13. See Desai (2003) and Eichengreen (2002) for a survey on financial crisis.
14. Although the subprime crisis had already affected credit in 2007, this paper assumes the recent events that provoked the so-called credit crunch starting by the bailout of Fannie Mae and Freddie Mac on September 7, 2008, as the beginning of the current crisis for practical purposes.
15. For a comprehensive view of causes and outcomes of the Asian crisis, see Berg (1999).
16. The Real Plan was launched in July, 1994 and successfully put an end to hyperinflation in Brazil. It used the exchange rate policy, a pegged currency, subject to a gradual devaluation of about 7 percent annually, to keep inflation under control.
17. The SELIC rate is the average overnight interest rate quoted in Sistema Especial de Liquidação e de Custódia (SELIC), a clearing house for government securities.

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About the authors

André Filipe Zago de Azevedo holds a PhD in Economics (University of Sussex, UK), an MPhil in Economics (Universidade Federal do Rio Grande do Sul – UFRGS, Porto Alegre, Brazil), and a BA in Economics (UFRGS, Porto Alegre, Brazil). Currently, he is an Associate Professor of the Graduate Program in Economics at Universidade do Vale do Rio dos Sinos (UNISINOS), a Researcher of the Brazilian Research Council (CNPq), and the Economic Adviser of the Chambers

of Commerce of the State of Rio Grande do Sul. Previously, he was a Consultant at the United Nations Conference on Trade and Development (UNCTAD). His professional and academic interests are international economics, international trade, economic development, and international business.

Paulo Renato Soares Terra holds a PhD in Management (McGill University, Montreal, Canada), an MSc in Management (Universidade Federal do Rio Grande do Sul – UFRGS, Porto Alegre, Brazil), and a BA in Business Administration (UFRGS, Porto Alegre, Brazil). He is an Associate Professor of the Graduate Program in Management of the School of Management (UFRGS, Porto Alegre, Brazil), Associate Researcher of Ecole des Hautes Etudes Commerciales de Montréal (HEC-Montreal, Montreal, Canada), and Visiting Professor (Fulbright Scholar) at the University of Illinois at Urbana-Champaign (Illinois, USA). His professional and academic interests are international business, international corporate finance, international corporate governance, and international capital markets. Paulo Renato Soares Terra is the corresponding author and can be contacted at: prsterra@ea.ufrgs.br

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