BRAZIL AND RUSSIA DURING THE FINANCIAL CRISIS: A TALE OF TWO COMMODITY EXPORTERS

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ABSTRACT

Brazil and Russia were similarly placed on the eve of the recent financial crisis. Both countries were large middle-income commodity exporters with a shared history of vulnerability to financial contagion. Aided by the long commodities boom, both countries were thriving. They had accumulated large foreign exchange reserves, paid down their external public debt, and experienced rapid economic growth; it was the best of times. The collapse of Lehman Brothers and the ensuing global financial panic changed this rosy picture. The crisis quickly spread to Brazil and Russia. Financial markets in both countries dropped precipitously, their respective currencies came under speculative attack, and their strong public sector financial positions deteriorated quickly; it was soon the worst of times. Nevertheless, Brazil's economic performance proved far more robust than Russia's during the crisis because of the country's relatively superior financial and macroeconomic regulation, as well as its deft crisis management. Compared to Russia, Brazil came out of the crisis with relatively stronger economic growth, more robust stock market performance, and greater policy flexibility.

This Note explores these and other reasons behind this divergence in performance, and makes two contributions to the literature. First, the Note analyzes the impact of the different policy responses adopted by Brazil and Russia in the lead-up to the crisis and the different policy interventions undertaken during the crisis. Second, the Note outlines three normative lessons for emerging market countries that are similarly placed, suggesting that countries should: manage total external debt (public and private), rather than target only public external debt; make deft and targeted interventions that conserve financial resources, rather than blunt and open-ended commitments; and, increase the quality and transparency of financial and macroeconomic regulation.

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INTRODUCTION

Brazil has historically been a crisis-prone country in a crisis-prone region. In 1999, following almost two decades of continuous economic and political turmoil across Latin America, the United Nations Conference on Trade and Development declared that the region was the "weakest part of the developing world."[1] Brazil's tendency to fall prey to financial contagion was well recognized, and the country was widely seen as "one of the first places to go into a tailspin when things turn nasty elsewhere."[2] When Brazil was included in the "BRIC" (Brazil-Russia-India-China) countries in 2001 by Jim O'Neill, an economist at Goldman Sachs, there was much skepticism about its inclusion in that list.[3] While no one doubted Russia's inclusion, many market observers believed that Brazil did not belong in this group because of its relatively poor economic prospects.[4] Indeed, Brazilians have

[1] U.N. CONFERENCE ON TRADE AND DEV. SECRETARIAT, GLOBAL ECONOMIC TRENDS AND PROSPECTS 8 (2001), http://www.unctad.org/en/docs/pogdsm21.en.pdf.
[2] *Breaking the Habit*, ECONOMIST, Nov. 14, 2009, at 5.
[3] *See* Matt Moffett, *Brazil Joins Front Rank Of New Economic Powers—Nation Launches Wealth Fund as Boom Boosts Coffers; Putting the 'B' in BRIC*, WALL ST. J., May 13, 2008, at A3 (noting that Brazil "seemed out of its league" as a member of the "BRIC" countries); *Brazil Takes Off*, ECONOMIST, Nov. 14, 2009, at 15 (pointing out that there was "much sniping about the B in the BRIC acronym" when it was first introduced). BRIC countries were meant to be the most dynamic emerging market countries.
[4] *See Brazil Takes Off*, *supra* note 3, at 15.

been known to joke that "Brazil is the country of the future—and always will be."[5]

On the eve of the global financial crisis, Brazil and Russia were similarly placed: as Figure 1 shows, both were middle-income commodity exporters with massive foreign exchange reserves. If anything, Russia appeared to be better positioned because it had a larger current account surplus and greater foreign exchange reserves. Furthermore, the two countries shared a common history of falling prey to financial contagion—during the last emerging markets crisis in the late 1990s and early 2000s financial contagion spread from East Asia to Russia and then ultimately to Brazil.

FIGURE 1: MACROECONOMIC SNAPSHOT OF BRAZIL AND RUSSIA PRE-CRISIS[6]

(December 2007)	**Brazil**	**Russia**
GDP (bn)	U.S. $1,366	U.S. $1,300
GDP Growth (y-o-y)	*6.1%*	*8.5%*
Per Capita GDP	U.S. $7,185	U.S. $9,146
External Public Debt (bn)	U.S. $66	U.S. $39
FOREX Reserves (bn)	U.S. $180	U.S. $479
Net External Public Debt (bn)	(U.S. $114)	(U.S. $440)
Current Account Surplus (% of GDP)	0.1%	6.0%
Exports (bn)	U.S. $185	U.S. $394
% Commodity	*43.1%*	*67.5%*
Inflation (y-o-y)	3.6%	9.0%
All amounts in billions of USD		

This crisis, however, played out very differently in the two countries. Brazil came out of the crisis relatively unscathed, with remarkably stable macroeconomic and financial performance. Furthermore, Brazil's economic and political regulatory environment was noted for having matured considerably over the last decade.[7] Many of the recent news stories have painted a

[5] Warren Hoge, *Always the Country of the Future*, N.Y. TIMES, Jul. 23, 1995, at BR9 (reviewing JOSEPH A. PAGE, THE BRAZILIANS (1995)).

[6] WORLD BANK, WORLD DEVELOPMENT INDICATORS (WDI) & GLOBAL DEVELOPMENT FINANCE (GDF), http://databank.worldbank.org/ddp/home.do (last visited Feb. 24, 2011). GDP, GDP per Capita, Foreign Exchange Reserves, Current Account Surplus, Exports and Inflation are from the World Development Indicators & Global Development Finance Database. External Public Debt is calculated as the sum of General Government Debt and Monetary Authorities Debt and comes from the Quarterly External Debt Statistics Database. In this Note, all data referenced by a figure is from the same source as the figure itself.

[7] *See* Sam Mamudi, *Emerging Markets Get "Vote of Confidence"—International Funds Ride Gains in Developing Economies; Europe's Rebound*, WALL ST. J., Oct. 5, 2010, at C11

favorable picture of Brazil with headlines such as "Brazil Takes Off" and "Brazil Joins Front Rank of New Economic Powers."[8] By contrast, Russia was enveloped in a financial market panic that sharply constrained its policy choices, and it emerged from the crisis with a tarnished reputation. This Note contrasts Brazil's stable performance with Russia's more turbulent passage through the latest global financial crisis.

The Note proceeds as follows. Part I explores the financial crises that engulfed Brazil from 1982 to 2002. Part I also discusses Russia's financial crisis and default in 1998 and concludes by summarizing the key policy choices that exacerbated the previous financial crises. Part II examines the policies Brazil and Russia adopted in the lead-up to the recent financial crisis between 2002 and 2007. Part III charts the relative performance of Brazil and Russia during the most recent crisis. This discussion also contrasts Brazil's relatively successful and deft policy interventions with Russia's more expensive and blunt interventions during the crisis. The conclusion then draws some normative policy lessons for other emerging market countries in future crises and also highlights potential macroeconomic and financial issues facing Brazil as it moves forward.

I. Survey of Financial Crises (1982–2002)

Brazil has been crisis prone since independence. By certain measures, Brazil has defaulted on or rescheduled its external public debt nine times since 1800, and three times since World War II.[9] Brazil has also been embroiled in at least nine banking crises since 1800, including four since World War II.[10] Furthermore, Brazil was adversely affected by almost every world financial crisis in the two decades between 1982 and 2002.[11] In short, Brazil's economic and financial performance left much to be desired. This Part briefly reviews Brazil's performance from the Mexican default in 1982 to the Argentinean default in 2002. This Part also briefly reviews the Russian devaluation and default in 1998. It does not, however, explore the country's financial and economic crises during the Soviet period because the non-market experience of that era is less instructive for dealing with financial market

(highlighting that "Brazil is a good example" of countries that have dealt with major structural and macroeconomic challenges).

[8] *See Brazil Takes Off*, *supra* note 3, at 15.

[9] Carmen M. Reinhart & Kenneth S. Rogoff, This Time Is Different: Eight Centuries of Financial Folly 30 (2009). The authors find that Brazil defaulted or rescheduled its debt in 1822, 1898, 1902, 1914, 1931, 1937, 1961, 1964 and 1983. *Id.* This may understate the number of defaults or reschedulings because the country arguably defaulted again in 1987. *Id.*

[10] *Id.* at 85–88. The authors find that Brazil experienced banking crises in 1890–1892, 1897–1898, 1900–1901, 1914, 1923, 1963, 1985, 1990 and 1994–96. *Id.*

[11] *See Breaking the Habit*, *supra* note 2. The article identifies eight different periods of economic stress since 1970 including the oil shocks (1973–79), default (1982–83), Cruzado Plan (1986), Collor Plan (1990), Tequila crisis (1994), Asia crisis (1997), Russian crisis (1998), and Argentina's default (2001–02). *Id.*

crises. This Part concludes by discerning lessons that emerging market countries can draw from these crises.

A. 1980s Sovereign Debt Crises

During the 1970s, Brazil's military dictatorship, to secure its political legitimacy, embarked on an expansive investment strategy that was financed by raising new external public debt.[12] Most of this debt was issued by Western commercial banks. This policy led to large trade and current account deficits.[13] Inevitably, the government funded the fiscal deficit by printing money, which also resulted in high and persistent inflation.[14] The government tried to combat this inflation through crude measures such as price controls, but the effort was unsuccessful.[15] Brazil's economic and financial position was weak and fast deteriorating.

Mexico had followed a similar strategy of public external borrowing to finance large domestic investments.[16] As in Brazil, the strategy proved unsustainable; Mexico suspended payments on its debt in 1982 and subsequently devalued its currency.[17] Following Mexico's default, regular refinancing of bank debt became impossible for Brazil.[18] Brazil and the international creditor banks engaged in a series of ad hoc debt reschedulings from 1983 to 1987.[19] The Brazilian government also tried to reestablish control over inflation through a series of plans starting with the Cruzada Plan of 1985, which froze retail prices.[20] However, the plan proved to be unsustainable; by 1987, the country was once again unable to service its debt and the Brazilian government suspended interest payments to foreign banks.[21] The last attempt at solving the crisis, the Collor Plan of 1990, included a partial freeze on banking assets that was implicitly a domestic default because the freeze forced depositors to convert their assets into government debt and also suspended the indexation of government debt to inflation.[22] Com-

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[12] *See* Eliana Cardoso, *The Macroeconomics of the Brazilian External Debt*, *in* DEVELOPING COUNTRY DEBT AND THE WORLD ECONOMY 82, 83 (Jeffrey Sachs ed., 1989).

[13] *See id.*

[14] *See* WERNER BAER, THE BRAZILIAN ECONOMY: GROWTH AND DEVELOPMENT 140 (5th ed. 2001).

[15] *See id.* at 138.

[16] *See* Edward Buffie & Allen S. Krause, *Mexico 1958–86: From Stabilizing Development to the Debt Crisis*, *in* DEVELOPING COUNTRY DEBT AND THE WORLD ECONOMY 152–55 (Jeffrey Sachs, ed., 1989).

[17] *See id.*

[18] *See* Cardoso, *supra* note 12, at 84.

[19] *See* Philip J. Power, *Sovereign Debt: The Rise of the Secondary Market and its Implications for Future Restructurings*, 65 FORDHAM L. REV. 2701, 2709–15 (1996).

[20] *See* BAER, *supra* note 14, at 145.

[21] *See* Alan Riding, *Brazil to Suspend Interest Payment to Foreign Banks*, N.Y. TIMES, Feb. 21, 1987, at 1.

[22] *See* Evan Tanner, *Balancing the Budget with Implicit Domestic Default: The Case of Brazil in the 1980s*, 22 WORLD DEV. 85, 86 (1994).

pounding the country's problems, this period was also marked by political instability and a messy transition to democracy.[23]

By the early 1990s, the series of ad hoc debt reschedulings was viewed as a failure and some commentators called for meaningful debt reduction, either through market-based mechanisms or through the establishment of an international debt facility.[24] In March 1989, Nicholas Brady, U.S. Secretary of the Treasury, proposed a plan to securitize sovereign loans of troubled Latin American borrowers and to reissue these new instruments in the open market.[25] These securities, now known as "Brady Bonds," offered a partial debt write-off and longer maturities to the debtor countries, while offering greater security to the lenders.[26] Brazil was one of the last countries to announce a restructuring of its debt under the Brady formulation in 1992.[27] The plan seemed to work. After the successful completion of Brazil's financial restructuring in 1994, the *New York Times* declared that the "international debt crisis is over."[28] In the meantime, the government also managed to subdue inflation through the introduction of the Real Plan in July 1994, which swapped the older, debased currency for a new currency, the real.[29] Even so, the series of painful restructurings, coupled with high and persistent inflation, meant that the 1980s was a time of anemic growth for Brazil specifically and Latin America generally. It was for this reason that the 1980s came to be known as Latin America's "lost decade."[30]

B. 1990s Exchange Rate Crises

1. Tequila Crisis

Stability, to the extent that it was achieved, was short-lived. In December 1994, after struggling to refinance its dollar-linked, short-term debt (tesobonos) and faced with an increasingly overvalued currency, Mexico floated its currency, which immediately resulted in a sharp devaluation of the peso.[31] There was a risk that this devaluation would lead to another sovereign debt crisis because the sharp drop in the value of the peso made the

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[23] *See Breaking the Habit*, *supra* note 2.

[24] *See* Jeffrey D. Sachs, *New Approaches to the Latin American Debt Crisis*, 174 Essays in Int'l Fin. 29 (1989).

[25] *See* Power, *supra* note 19, at 2720.

[26] *See id.* at 2721.

[27] *See* Lee C. Buchheit, *The Evolution of Debt Restructuring Techniques*, 11 Int'l Fin. L. Rev. 10, 12 (1992); *see also* Power, *supra* note 19, at 2722–23.

[28] Kenneth N. Gilpin, *Foreign Debt Mop-Up; After Refinancing Brazil, Banks Now Face Just a Few Small Bad International Loans*, N.Y. Times, Apr. 18, 1994, at D1.

[29] *See* Andre Averbug, *The Brazilian Economy in 1994–1999: From the Real Plan to Inflation Targets*, 25 World Econ. 925, 927 (2002).

[30] *See* Ennio Rodriguez, *The Lost Decade of Debt Crisis*, Int'l Dev. Research Ctr. 24 (Jul. 1991), http://idl-bnc.idrc.ca/dspace/bitstream/10625/24372/1/108961.pdf.

[31] *See* Council on Foreign Rel., Lessons of the Mexican Peso Crisis 5 (1997), *available at* http://www.cfr.org/financial-crises/lessons-mexican-peso-crisis/p132.

rollover of the tesobonos practically impossible.[32] Financial panic quickly spread across emerging markets, and the financial contagion came to be known as the "Tequila Effect."[33] Brazil, despite the fact that it was arguably in a better macroeconomic position than Mexico, was one of the first countries to be ensnared by the Tequila Effect.[34] The central bank tried to defend the currency against speculative attacks by raising the reference interest rate to 50%,[35] but it was ultimately forced to devalue the real in 1995.[36]

Brazil concurrently faced a banking crisis. Before the start of the crisis, Brazil's banking sector was regarded as relatively well capitalized because the country had imposed one of the highest capital adequacy ratios in Latin America.[37] However, a combination of factors including the rapid pre-crisis expansion of credit, the high interest rate policy adopted to defend the real during the crisis, and the rising unemployment rate meant that the quality of the bank's asset base declined quickly.[38] Within a matter of months, systemwide nonperforming loans reached 15%.[39] To deal with the growing problem, a number of banks were liquidated, placed under temporary administration, or forced to merge with stronger competitors.[40]

The Tequila Crisis (as the crisis came to be called) ended after Mexico accepted international financial assistance to refinance the tesobonos.[41] Unlike Mexico, however, Brazil managed to roll over its short-term debt without needing emergency assistance because its domestic banks held most of its short-term debt.[42]

The Tequila Crisis was caused by mismanagement of external capital flows, inflexible exchange rates, and weak regulatory supervision of the banking sector in Latin America.[43] By contrast, Asian economies managed to survive the financial contagion relatively unscathed and were lauded for their relatively superior macroeconomic and financial regulation.[44] Ironi-

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[32] *See* Guillermo A. Calvo, *Capital Flows and Macroeconomic Management: Tequila Lessons*, 1 INT. J. FIN. ECON. 207, 215 (1996).

[33] *See* Carlos E. Zarazaga, *Beyond the Border: The Tequila Effect*, FEDERAL RESERVE BANK OF DALLAS (Mar. 1995), http://www.dallasfed.org/assets/documents/research/swe/1995/swe9502c.pdf.

[34] *See id.*

[35] *See Breaking the Habit*, *supra* note 2.

[36] *See* ZARAZAGA, FEDERAL RESERVE BANK OF DALLAS, *supra* note 33, at 33.

[37] *See* BARBARA STALLINGS & ROGÉRIO STUDART, FINANCIAL REGULATION AND SUPERVISION IN EMERGING MARKETS: THE EXPERIENCE OF LATIN AMERICA SINCE THE TEQUILA CRISIS, U.N. ECON. COMM'N FOR LATIN AM. AND THE CARIBBEAN 23 (2003), *available at* http://www.eclac.org/publicaciones/xml/4/12214/lcl1822i.pdf.

[38] *See id.* at 21.

[39] REINHART & ROGOFF, *supra* note 9, at 354.

[40] *See* STALLINGS & STUDART, *supra* note 37, at 23.

[41] *See* COUNCIL ON FOREIGN REL., *supra* note 31, at 17–18.

[42] *See* Calvo, *supra* note 32, at 207–220 (1996).

[43] *See* Jeffrey D. Sachs et al., *Financial Crises in Emerging Markets: The Lessons from 1995* (Nat'l Bureau of Econ. Research, Working Paper No. 5576, 1996).

[44] *See id.*

cally, the next crisis that ultimately ensnared Russia and Brazil originated in Asia.

2. *East Asian and Russian Crisis*

Thailand was the epicenter of the East Asian crisis. By 1996, Thailand's macroeconomic picture started to deteriorate. GDP growth was declining and the current account deficit was steadily increasing, which meant the country was increasingly reliant on short-term capital flows.[45] The exchange rate was also increasingly uncompetitive, which hurt exporters.[46] In short, Thailand's external profile was similar to Mexico's in the lead-up to the Tequila Crisis. Faced with speculative attacks on its currency, Thailand tried to defend its currency peg by raising interest rates and buying dollars in the open market.[47] After quickly exhausting its foreign exchange reserves, the country was forced to devalue the baht in 1997.[48] This was the start of the East Asian crisis. Financial panic rippled across the region, ensnaring the Philippines, Indonesia, and South Korea.[49] Each of these countries was forced to devalue its currency and seek assistance from the International Monetary Fund (IMF) to deal with the crisis.[50]

The next domino to fall was Russia. Russia suffered from an overvalued currency and a growing fiscal deficit.[51] Following the ill-fated precedent of the East Asian countries, Russia tried to defend its overvalued currency with IMF support, but was ultimately forced to devalue the rouble in 1998.[52] Devaluation was followed by a default on external debt, a collapse of the banking system, and political turmoil.[53]

Financial panic soon spread to other regions of the world and the Latin American countries were once again forced to deal with financial contagion. Brazil and Argentina were particularly vulnerable to the crisis because their respective exchange rates were overvalued by up to 40%.[54] The East Asian crisis had also led to a sharp decline in commodity prices, which increased the current account deficits of these countries because their export earnings declined.[55] Brazil's fiscal position was also precarious; as a percentage of

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[45] *See* Frederick I. Nixon & Bernard Walters, *The Asian Crisis: Causes and Consequences*, 67 Manchester School 496, 496–99 (1999).

[46] *See id.* at 499.

[47] *See id.*

[48] *See id.*

[49] *See id.*

[50] *See id.*

[51] *See* Enrico C. Perotti, *Lessons from the Russian Meltdown: The Economics of Soft Legal Constraints* 4–5 (Ctr. for Econ. Policy Research, Policy Paper No. 9, 2002).

[52] *See To the Rescue*, Economist, Jul. 16, 1998, at 65–66.

[53] *See* Enrico C. Perotti, *supra* note 51, at 1.

[54] *See* Steven Radelet & Jeffrey Sachs, *The East Asian Financial Crisis: Diagnosis, Remedies, Prospects*, Harvard Inst. for Int'l Dev. 14 (Apr. 20, 1998), http://www.cid.harvard.edu/archive/hiid/papers/bpeasia.pdf.

[55] *See Emerging-market Measles*, Economist, Aug. 22, 1998, at 56.

GDP, the country had a budget deficit that was similar in size to Russia's budget deficit, which meant that the country had to borrow extensively in the external capital markets.[56] Brazil therefore had all the ingredients of an exchange rate crisis: an overvalued currency, a large budget deficit, and falling commodity prices. It was widely predicted to be the next domino to fall.[57]

Brazil approached the IMF for a financial rescue package and was offered the same deal that had failed in East Asia: vigorous defense of an overvalued currency that was supported by IMF loans, deep cuts to fiscal spending, and a sharp increase in central bank interest rates.[58] Brazil had already expended thirty billion dollars defending its overvalued currency, but the IMF insisted on maintaining the real's crawling peg to the dollar.[59] Overvalued currencies had become the IMF's Maginot Line.

Conventional wisdom, however, was beginning to shift on the issue. Jeffrey Sachs, an economist at Columbia University, argued that the IMF's package imposed a deep and unnecessary recession on Brazil and predicted that the country would ultimately be forced to devalue its currency.[60] His analysis proved to have been prescient; Brazil was forced to devalue its currency and abandon its crawling peg to the dollar in 1999.[61] The country, however, managed to avoid default on its debt, and within a year, "the country's economic and fiscal position" had "improved with remarkable speed" due to economic growth coupled with increasing fiscal discipline.[62]

3. *Argentinean Default*

There was one act left in the unfolding emerging markets tragedy: Argentina's devaluation and default. In the wake of Brazil's devaluation, Argentina's currency was overvalued and the country was increasingly uncompetitive in the global markets.[63] Nevertheless, as was the typical response to the currency crises sweeping the world, Argentina tried to defend its currency peg against the U.S. dollar, before capitulating to the inevitable.[64] The ensuing devaluation and default was messy and resulted in politi-

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[56] *See id.*

[57] *See* Jeffrey Sachs & Steven Radelet, *Next Stop: Brazil*, N. Y. TIMES, Oct. 14, 1998, at A23.

[58] *See The Real Thing*, ECONOMIST, Nov. 21, 1998, at 74–75; *see also* David E. Sanger, *Brazil is to Get I.M.F. Package for $42 Billion*, N. Y. TIMES, Nov. 13, 1998, at A1.

[59] *See id.*

[60] *See* Jeffrey Sachs, *Self-inflicted Wounds*, FIN. TIMES, Jan. 22, 1999, at 14. *See generally* Jeffrey Sachs, *Brazil Fever*, MILKEN INST. REV. (Jul. 1999), http://www.cid.harvard.edu/archive/hiid/papers/bpeasia.pdf.

[61] *Brazil on the Slide*, ECONOMIST, Jan. 16, 1999, at 65–66.

[62] *B for Brazil*, ECONOMIST, Jul. 15, 2000, at 73.

[63] *See* LESSONS FROM THE CRISIS IN ARGENTINA, INT'L MONETARY FUND 42 (2003), *available at* http://www.imf.org/external/np/pdr/lessons/100803.htm.

[64] *See id.* at 58–62.

cal turmoil in Argentina.[65] Brazil, as its neighbor and co-adventurer, was once again in the spotlight.

To stop a slide in the real, Brazil negotiated a new thirty billion dollar loan package with the IMF and agreed to maintain a primary budget surplus of 3.75% of GDP.[66] The central bank also tried to support its currency by increasing interest rates to 25%.[67] Nevertheless, the real depreciated sharply against the dollar and the central bank did not try to defend the currency by expending reserves.[68]

There was an additional complication during this crisis: polls suggested that Luiz Inacio Lula da Silva (Lula), the presidential candidate of the left-leaning Workers' Party, was in the lead.[69] Financial market participants feared that the election of Lula would result in a lack of fiscal and monetary discipline, thereby pushing the country toward default.[70] Indeed, Lula had threatened to default on the national debt in previous campaigns.[71] After winning the election, however, President Lula set about implementing an orthodox macroeconomic and financial policy, and a measure of calm soon returned to the Brazilian financial markets.[72]

Brazil, thus, emerged from the series of exchange rate crises without defaulting on its public debt, albeit at the cost of high interest rates and tight fiscal policy.

C. *Common Themes and Lessons Learned*

In the two decades between 1982 and 2002, Brazil was a key player in almost every major global financial crisis. In the sovereign debt crisis of the 1980s, the country was forced to almost continually default or restructure its external public debt. In the 1990s, the country managed to avoid default, but had to adopt tight monetary and fiscal policy at every crucial juncture. In this context, the country had limited flexibility in crisis management.

Russia, after its reentry into global financial markets in the early 1990s, was similarly troubled. The country was unable to maintain stable economic and financial performance and suffered through a number of years of default and stagnation.

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[65] *See Accepting Default, Avoiding Disaster*, ECONOMIST, Nov. 23 2001, at 1.

[66] *Race Against Time*, ECONOMIST, Sep. 28, 2002, at 69.

[67] *Review of COPOM Meetings and Short-Term Interest Rates*, BANCO CENTRAL DO BRASIL (Dec. 21, 2011), http://www.bcb.gov.br/?INTEREST.

[68] *See The Real Crisis Becomes More So*, ECONOMIST, Oct. 19, 2002, at 68–69.

[69] *See* Larry Rohter, *A Leftist Surges in Brazil's Turbulent Presidential Election*, N.Y. TIMES, May 17, 2002, at A8.

[70] *See* Larry Rohter, *Skepticism Greets Leftist's Makeover in Brazil*, N.Y. TIMES, Jul. 7, 2002, at 3.

[71] *See id.*

[72] *See A Battle Won, Another Begun*, ECONOMIST, Nov. 10, 2003, at 36; *see also* LISA M. SCHINELLER, STANDARD & POOR'S, FEDERATIVE REPUBLIC OF BRAZIL 3 (Sep. 29, 2003) (noting that Brazilian credit ratings are supported by a "deepening culture of fiscal responsibility" in Brazil).

What went wrong? Five common threads run through Brazil and Russia's previous crises. First, both countries ran large, unstable budget deficits that resulted in a build-up of public debt. Neither country's economy was able to sustain such a large public debt burden, as evidenced by both countries' defaults during the crisis. Furthermore, the large fiscal deficits meant that the two governments had limited policy flexibility during an economic crisis.

Second, both countries resorted to inflationary policies to finance their fiscal deficits. Beginning in the 1980s, Brazil tried to finance the budget deficit by debasing its currency. This resulted in a sharp rise in inflation and reduced trust in the currency. Similarly, Russia was unable to control inflation. Over time, inflation became embedded in Brazil's and Russia's economic systems and the countries' respective central banks were forced to adopt high interest rates to combat it.

Third, both countries tried to fight the resulting inflation by adopting new currencies and establishing currency pegs to the dollar. These policies later led to exchange rate crises as the new currencies became uncompetitive in the global market, because inflation rates remained persistently higher than in the United States. Both countries also relied too heavily on short-term external debt and maintained inadequate levels of foreign exchange reserves.

Fourth, unstable macroeconomic policies coupled with weak banking regulations resulted in a series of banking crises. In Brazil, the Collor Plan (effectively a domestic banking default) and the Tequila Crisis both resulted in a widespread restructuring of the domestic banking system. In Russia, weak banking regulation resulted in the complete collapse of the local banking system after the country's default in 1998. Both countries were also forced to rely on international capital markets as weak financial systems were unable to channel domestic savings into government debt.

The last common theme running through all the crises is the lack of political consistency or consensus on macroeconomic management. In Brazil, the initial build-up of government debt in the 1970s was due to the military government's need for political legitimacy. The debt restructurings in the 1980s were complicated by a messy transition to democracy. President Lula's election in the early 2000s caused investors to panic, as there was concern that he would abandon orthodox macroeconomic management. Similarly, Russia's turbulent transition to democracy made it more difficult for the country to commit to stable macroeconomic policies in the 1990s.

Brazil's and Russia's abilities to deal with these problems would determine how they fared in the next financial crisis.

II. Policy Choices in the Lead-Up to the Crisis

This Part outlines the macroeconomic and financial regulatory choices available to Brazil and Russia and then empirically charts the impact of the policies adopted by the two countries in the lead-up to the financial crisis. This Part is divided into three rubrics of analysis: (A) External Financial Management, (B) Domestic Monetary and Financial Management, and (C) Fiscal Management and Political Climate.

A. *External Financial Management*

1. *Reserve Build-Up*

Following the exchange rate crises of the 1990s, several countries adopted a strategy of maintaining large foreign exchange reserves to guard against future international liquidity crises.[73] However, by the late 2000s, the sheer scale of the reserves accumulation seemed to suggest that emerging market countries were maintaining reserves not just as a precautionary strategy but also as a mercantilist trade policy aimed at keeping real exchange rates competitive.[74]

This strategy was not costless. First, there was the direct fiscal cost of holding foreign exchange reserves since the interest rates on domestic currency liabilities were inevitably higher than the returns on foreign dollar-denominated assets.[75] Second, the accumulation of reserves represented a forgone opportunity to invest in the domestic economy.[76] Some have estimated that the cost of holding reserves could be as high as 1% of GDP for the average emerging market economy.[77]

Brazil was no exception to this trend. The country's foreign exchange reserves grew from $37.8 billion in 2002 to $180.3 billion in 2007 (Figure 2). By 2007, they constituted 13.2% of GDP and 2.6 times external public debt (Figure 1). Brazil's government, on a consolidated basis, had a large net U.S. dollar position. The costs of this strategy were particularly high for Brazil given the large differential between Brazilian and U.S. government bond rates.[78]

Russia's foreign exchange reserves grew even more quickly—from $48.3 billion in 2002 to $478.8 billion in 2007 (Figure 2). By 2007, they constituted a massive 36.8% of GDP and 10.7 times external public debt (Figure 1). As was the case for Brazil, Russia's government, on a consolidated basis, had a large net U.S. dollar position. Recognizing the opportunity cost of holding these reserves, Russia's government announced a plan to

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[73] *See* Jaewoo Lee, *Insurance Value of International Reserves: An Option Pricing Approach* 3 (Int'l Monetary Fund, Working Paper No. WP/04/175, 2004).

[74] *See* Joshua Aizenman & Jaewoo Lee, *Financial versus Monetary Mercantilism: Long-run View of Large International Reserves Hoarding*, 593 World Econ. 605 (2008).

[75] *See* David Hauner, *A Fiscal Price Tag for International Reserves* 3 (Int'l Monetary Fund, Working Paper No. WP/05/81, 2005).

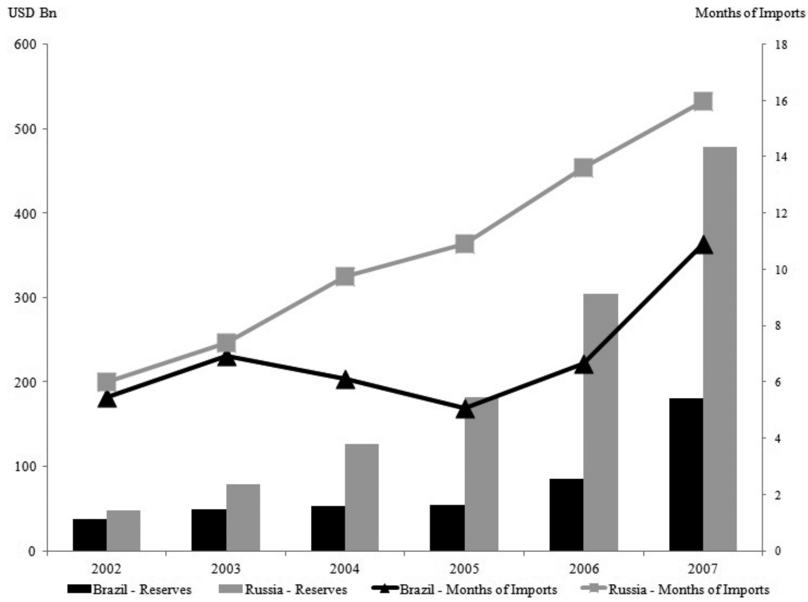
[76] *See* Dani Rodrik, *The Social Cost of Foreign Exchange Reserves* 2 (Nat'l Bureau of Econ. Research, Working Paper No. 11952, 2006).

[77] *See id.*

[78] *See* Bloomberg Data, accessed Jan. 31, 2011 (search data on file with journal).

invest a portion of its foreign exchange reserves in illiquid assets that would be held through a sovereign wealth fund.[79] Since illiquid assets cannot be easily liquidated in a financial crisis, the investment strategy suggests that the government was implicitly acknowledging that the build-up in reserves was not solely for insurance purposes.

FIGURE 2: FOREIGN EXCHANGE RESERVES[80]



2. *External Debt Position*

Emerging markets' external borrowing tends to be procyclical, with external public debt levels increasing sharply during commodity booms.[81] This external debt can become difficult to support if commodity prices fall[82] or if a country is forced to devalue its currency in a financial crisis.[83] Furthermore, emerging market countries tend to borrow short-term in the external capital markets because lenders demand a substantially higher premium for

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[79] *See* Andrew E. Kramer, *Russia Creates a $32 Billion Fund for Foreign Investment*, N.Y. TIMES, Feb. 1, 2008, at C2.

[80] WORLD BANK, *supra* note 6.

[81] *See* REINHART & ROGOFF, *supra* note 9, at 77–78.

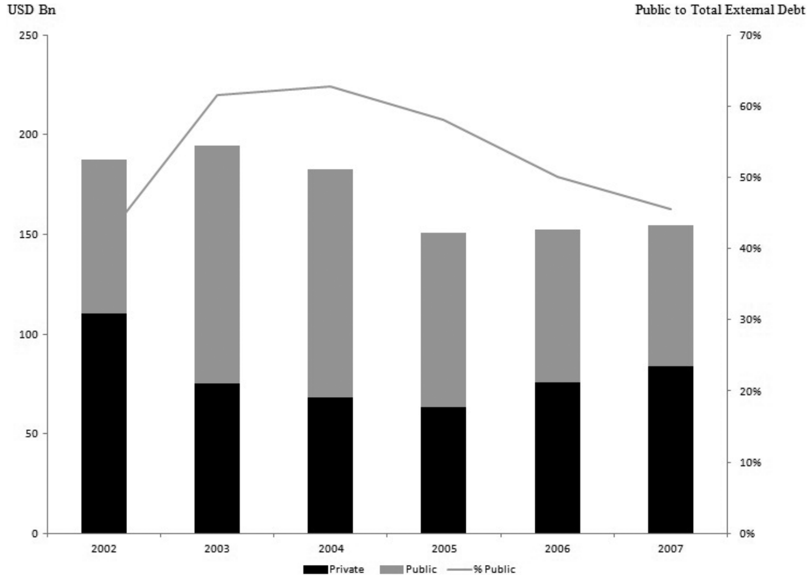
[82] *See id.*

[83] *See Brazil on the Slide*, ECONOMIST, Jan 16, 1999, at 65–66 (noting that foreign currency debt becomes more expensive in local terms following the devaluation of the country's currency).

lending at longer maturities.[84] This maturity profile is particularly problematic during a financial crisis because external creditors often refuse to roll over short-term debt. As a result, liquidity crises in emerging markets can quickly become solvency crises.[85]

Brazil's public external debt profile improved considerably during the period from 2002 to 2007. By 2007, Brazil's external public debt was only $70 billion, resulting in an external public debt to GDP ratio of 5.1% (Figure 3). Including foreign exchange reserves, Brazil had a net U.S. dollar position of $114 billion (Figure 1). Unlike the crises in the 1980s and 1990s, this meant that the net wealth of the Brazilian government *increased* during a currency devaluation. The country was confident of its financial position, and, as a sign of growing financial flexibility, refinanced the Brady Bonds that were issued in 1994.[86]

FIGURE 3: BRAZIL'S EXTERNAL DEBT PROFILE[87]

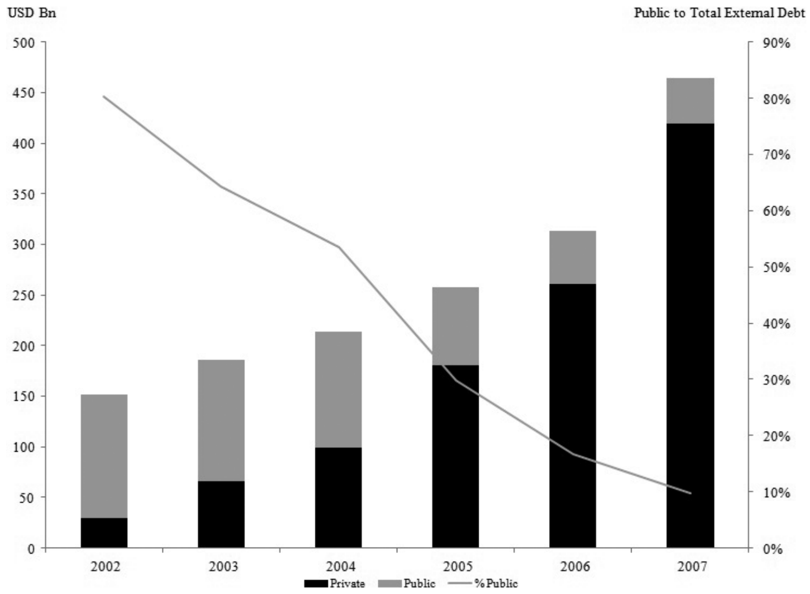


Russia's external public debt position improved even more dramatically during this period. By 2007, the central government had reduced its external public sector debt to $45 billion, which constituted only 3.5% of GDP (Figure 4). Russia was extremely confident of its external position and pre-paid

[84] *See* Fernando A. Broner et al., *Why Do Emerging Economies Borrow Short Term?* 1–2 (Dep't of Econ. & Business, Universitat Popeu Fabrau, Working Paper No. 838, 2004).
[85] *See* REINHART & ROGOFF, *supra* note 9, at 59–60.
[86] *See* Joanna Chung, *Emerging Markets Signal End for Brady Bonds*, FIN. TIMES, Feb. 27, 2006, at 19.
[87] Bloomberg Data, accessed Jan. 31, 2011 (search data on file with journal).

its $22 billion dollars of Paris Club Debt (official debt owed to foreign governments) in 2006, even though it had to negotiate a pre-payment penalty.[88] Furthermore, given its large foreign exchange reserves, Russia had a massive net U.S. dollar position of $440 billion (Figure 1).

FIGURE 4: RUSSIA'S EXTERNAL DEBT PROFILE[89]



During the long commodity boom in the 2000s, Brazil and Russia both improved their external public debt situations by reducing their public debt levels. This, however, is not the complete picture. It is also important to manage external private debt levels because a sharp currency devaluation could make such debt unsustainable and therefore require the central government to assume some of this private external debt.[90] Furthermore, large external private sector debt may limit currency flexibility during a crisis because the government recognizes that a large devaluation of the currency would have a material adverse impact on domestic private sector balance sheets.[91]

Brazil's external private position remained stable during the period, with external private debt declining slightly from $110 billion in 2002 to $84 billion in 2007 (Figure 3). Total external debt to GDP decreased sharply

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[88] *See* Neil Buckley & Joanna Chung, *Russia Finalises Paris Club Debt Deal*, FIN. TIMES, Jun. 23, 2006, at 6.
[89] Bloomberg Data, accessed Jan. 31, 2011 (search data on file with journal).
[90] *See* REINHART & ROGOFF, *supra* note 9, at 26.
[91] *See* Ricardo Hausmann, Ugo Panizza, & Ernesto Stein, *Why Do Countries Float the Way They Float?*, 66 J. DEV. ECON. 387, 389 (2001).

from 54.3% in 2002 to 11.3% in 2007 (Figure 3). Therefore, Brazil's private sector was externally well positioned for the crisis.

Russia's private sector, by contrast, borrowed heavily in the international capital markets with external private debt growing dramatically from $30 billion in 2002 to $419 billion in 2007 (Figure 4). Total external debt to GDP increased from 30.2% in 2002 to 35.7% in 2007 (Figure 1). As such, the external debt levels grew in both absolute and relative terms during the period. Western banks were particularly eager to lend to Russian companies and a number of them established branches in Russia.[92] Therefore, Russia's private sector entered the crisis with large foreign-denominated liabilities.

3. *Currency Policy*

Emerging markets have traditionally been reluctant to tolerate volatility in exchange rates for a number of reasons, including liability dollarization (converting local currency debt into foreign currency debt), concerns about lack of institutional credibility on inflation targets, and the fear of potential loss of access to international capital markets during a financial crisis.[93] Brazil was no exception. In the 1990s, as part of the Real Plan to stabilize inflation, it maintained a crawling peg to the U.S. dollar as a mechanism for establishing credibility in the currency.[94] However, following the Russian crisis in 1998, it was unable to withstand speculative attacks and was forced to float its currency.[95]

Following the exchange rate crises of the 1990s, many countries adopted an official position of 'floating' their currencies.[96] However, even though these currencies are nominally floating, the countries nonetheless tried to manage exchange rate volatility through frequent foreign exchange intervention or changes to interest rate policy.[97]

After the forced depreciation of the real in 1999–2003, Brazil tried to manage the volatility of the real by regularly intervening in the foreign exchange markets.[98] Nevertheless, by 2005, Brazil's currency had appreciated considerably (Figure 5) and the central bankers took a more hands-off approach to currency management, even though there was domestic business and political pressure to arrest the real's sharp appreciation.[99]

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[92] *See* Paivi Munter, *Foreign Lenders Fall Over Themselves to Fund Big Names*, FIN. TIMES, Oct. 19, 2004, at 5.

[93] *See* Guillermo A. Calvo & Carmen M. Reinhart, *Fear of Floating*, 117 Q. J. ECON. 379, 393 (2002); *see also Fix or Float?*, ECONOMIST, Jan. 30, 1999, at S15–S17.

[94] *See* Averbug, *supra* note 29, at 929.

[95] *See id.* at 933.

[96] *See* Calvo & Reinhart, *supra* note 93, at 404.

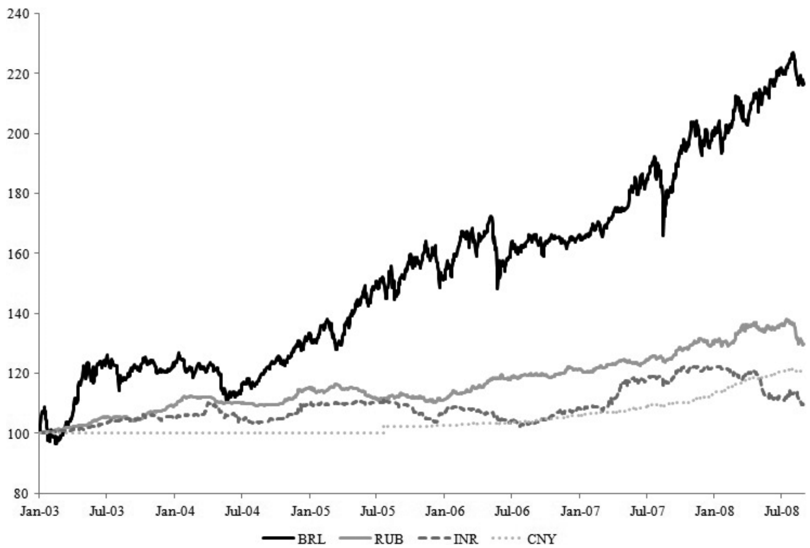
[97] *See id.*

[98] *See* Mary Anastasia O'Grady, *Brazil's Central Bank Tries the Impossible*, WALL ST. J., Dec. 17, 2004, at A15.

[99] *See* Geraldo Samor, *Dealing With the Dollar: Brazil's Uncharted Terrain—Currency's Relentless Rise Gives Central Bank a New Headache*, WALL ST. J., Mar. 16, 2005, at A23

Russia, by contrast, maintained a currency peg to the U.S. dollar, although it increased its currency flexibility by also pegging the currency to the euro in 2005.[100] By 2006, the country had accumulated vast foreign exchange reserves and was more confident of its external position. As a result, it announced that it would lift all capital controls and make the currency fully convertible.[101] However, given the continuing rise in foreign exchange reserves, it is clear that Russia maintained a policy of managing the float of its currency (Figure 5).

FIGURE 5: RELATIVE BRIC CURRENCY PERFORMANCE, JANUARY 2003 TO SEPTEMBER 2008[102]



4. *Dependence on and Diversification of Exports*

Emerging markets that rely on an export-led growth strategy are vulnerable to a sudden decline in foreign demand, especially when it comes to commodities.[103] Furthermore, relying disproportionately on one export industry may be particularly problematic since it makes the country vulnerable

(quoting the central bank chief as saying that "the central bank should take a hands-off approach on currency matters and let markets determine the real's value").

[100] *See* Steve Johnson, *Russia Ends De Facto Dollar Peg and Moves to Align Rouble with Euro*, FIN. TIMES, Feb. 5, 2005, at 6.

[101] *See* Neil Buckley, *Resurgent Russia Prepares for Convertible Rouble*, FIN. TIMES, Jun. 30, 2006, at 8.

[102] Bloomberg Data, accessed Jan. 31, 2011 (search data on file with journal).

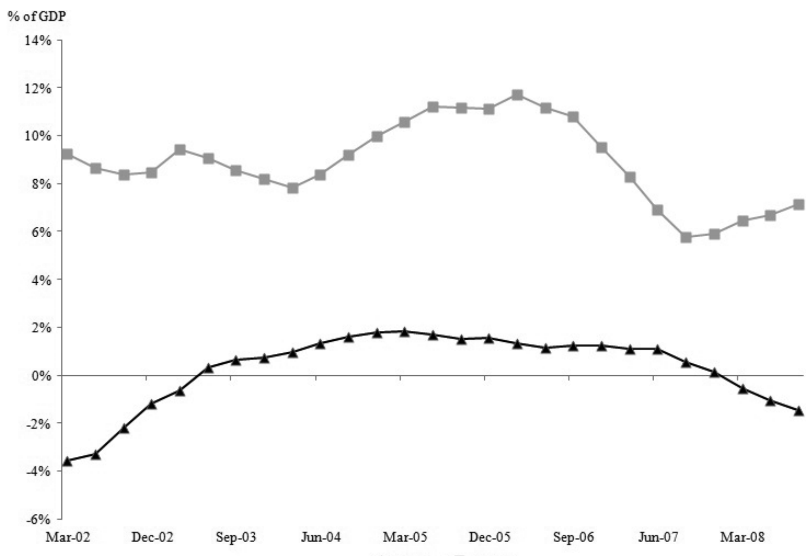
[103] *See* Robert A. Blecker, *The Diminishing Returns to Export-Led Growth*, COUNCIL ON FOREIGN REL. 6 (Oct. 1999), http://www.cfr.org/trade/diminishing-returns-export-led-growth-cfr-paper/p8709.

to trade shocks and unstable export revenues.[104] Conversely, diversification of exports improves a country's macroeconomic stability.

By the end of 2007, Brazil's economic dependence on exports was low, with exports constituting only 13.4% of GDP.[105] The current account was also roughly balanced (Figure 6). While Brazil was dependent on commodity exports, which constituted 43.1% of total exports (Figure 1), Brazil was not dependent on any one commodity, and it exported a range of different raw materials.[106]

Russia, by contrast, was an export-dependent country with exports constituting 30.2% of GDP in 2007.[107] At the close of 2007, Russia's current account surplus was a massive 5.9% (Figure 6). The country was also more reliant on commodity exports, which constituted 67.5% of total exports.[108] Within this bucket, Russia was particularly sensitive to fuel exports, which constituted over 50% of all exports.[109] Thus, Russia's economy was very sensitive to international oil and gas prices.

FIGURE 6: CURRENT ACCOUNT SURPLUS (DEFICIT)[110]



[104] *See* Paul Brenton et al., *Export Diversification: A Policy Portfolio Approach* 2 (Growth Comm'n Conference on Dev. at Yale Univ., 2000), http://www.growthcommission.org/storage/cgdev/documents/GlobalTrends/Paper%20Newfarmer%20(presented%20by%20Hesse).pdf.

[105] WORLD BANK, *supra* note 6.

[106] *Id.*

[107] *Id.*

[108] *Id.*

[109] *Id.*

[110] Bloomberg Data, accessed Jan. 31, 2011 (search data on file with journal).

B. Domestic Monetary and Financial Management

1. Inflation and Monetary Policy

Emerging markets have frequently experienced high rates of inflation.[111] These bursts of inflation are partly fueled by the tendency of governments to use inflation as a mechanism to reduce the real value of domestic sovereign debt.[112] As a result, emerging markets have developed a credibility problem on inflation.

One mechanism by which a country can deal with this credibility problem is to adopt a fixed exchange rate.[113] Brazil and Russia adopted versions of this plan in the 1990s, but the fixed exchange rate regime came under attack in both countries and they were ultimately forced to devalue their currencies.[114]

An alternative mechanism by which a country can combat inflation while keeping a floating exchange rate is the adoption of inflation targeting.[115] For inflation targeting to work, countries need to develop strong fiscal, financial, and monetary institutions.[116] Furthermore, countries also need to avoid excessive exchange rate volatility because such volatility tends to be inflationary as domestic producers pass rising input costs to consumers.[117] However, it is difficult to strike a balance between having a floating currency and managing exchange rate volatility, because excessive management of the exchange rate level can result in a de facto currency peg.[118]

Brazil adopted inflation targeting after it was forced to abandon its currency peg in 1999.[119] To gain market credibility, the country worked hard to develop a technically competent and transparent central banking regime. These efforts were rewarded, and the country was recognized as having the "most technically sophisticated inflation-targeting framework,"[120] including

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[111] *See* Reinhart & Rogoff, *supra* note 9, at 182–89.

[112] *See id.* at 180.

[113] *See* Calvo & Reinhart, *supra* note 93, at 393.

[114] *See supra* Part II.B.

[115] *See* Nelson H. Barbosa-Filho, *Inflation Targeting and Monetary Policy in Brazil* 1 (Centro de Estudios de Estado y Sociedad in Buenos Aires, Arg., May 13–14, 2005), http://www.acp-eu-trade.org/sn2./training%20docs/summer%20school%202009%20materials/frenkel/Biblio%20Pavia%20Frenkel%202009/Alternatives%20to%20IT%20barbosa.brazil.1.doc%20[Compatibility%20Mode].pdf.

[116] *See* Frederic S. Mishkin, *Can Inflation Targeting Work in Emerging Market Countries*? 2 (Nat'l Bureau of Econ. Research, Working Paper No. 10646, 2004).

[117] *See id.* at 26–27; *see also* André Minella et al., *Inflation Targeting in Brazil: Constructing Credibility Under Exchange Rate Volatility* 24–29 (Banco Central do Brasil, Working Paper No. 77, 2003).

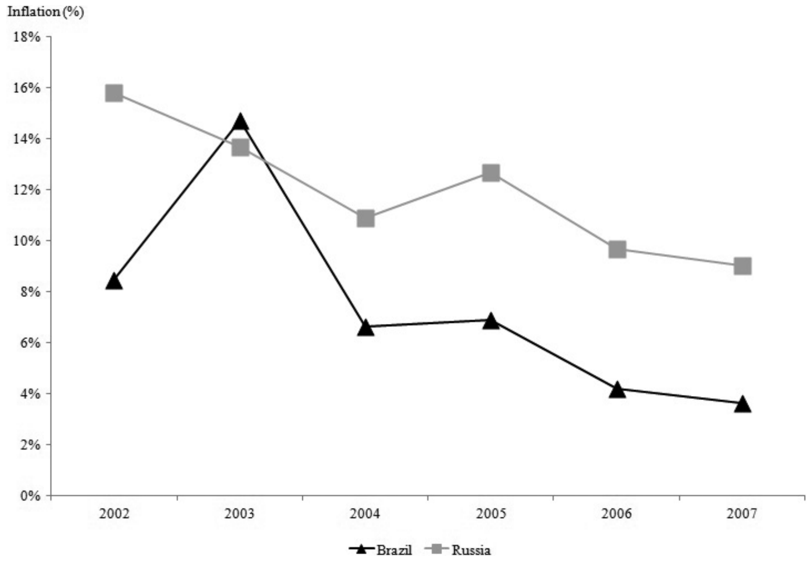
[118] *See* Mishkin, *supra* note 116, at 26.

[119] *See* Afonso S. Bevilaqua et al., *Brazil: Taming Inflation Expectations* 4 (Banco Central do Brasil, Working Paper No. 129, 2007).

[120] *Floating with an Anchor*, Economist, Jan. 29, 2000, at 88.

unprecedented levels of transparency, among emerging markets.[121] The impact of this was evident by 2007 (Figure 7); Brazil had "tamed inflation," and the resulting price stability meant that the country enjoyed unprecedented monetary flexibility.[122] Furthermore, Brazil's central bank was willing to raise policy rates whenever it believed that inflation was rising. For instance, the central bank raised interest rates in 2005 (Figure 8) in response to a small increase in consumer price inflation (Figure 7).

FIGURE 7: CONSUMER PRICE INFLATION, 2002 TO 2007[123]



Russia, by contrast, went down the fixed exchange route; its currency was initially pegged to the U.S. dollar, but this peg was later expanded to include the euro. The peg did not work; between 2002 and 2006, the country was unable to maintain price stability and inflation was frequently in the double digits (Figure 7).[124] The central bank compounded matters by significantly reducing interest rates during the period and therefore did not use the primary monetary policy tool for controlling inflation (Figure 8). By 2007, on the eve of the crisis, Russia still had an inflation problem.

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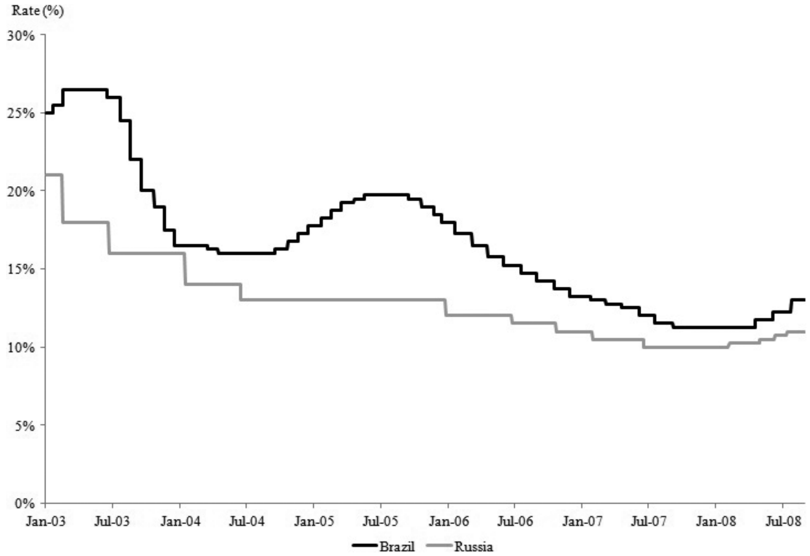
[121] *See* Frederic S. Mishkin, *Inflation Targeting in Emerging Market Countries*, 90 AM. ECON. REV. 105, 108–09 (2000).

[122] Antonio Regalado & Joanna Slater, *Brazil's Bull Draws Fans: Market Wins Over Skeptics With Newfound Stability*, WALL ST. J., Jun. 8, 2007, at C1.

[123] WORLD BANK, *supra* note 6.

[124] *See* Neil Buckley, *Russia's New Crisis—More Cash Than It Can Handle*, FIN. TIMES, Apr. 21, 2006, at 2.

FIGURE 8: CENTRAL BANK POLICY RATES, JANUARY 2003 TO AUGUST 2008[125]



2. *Financial Regulation*

Banking systems are crucial to modern economies because they are central to the transmission of credit. Therefore banking crises tend to have a devastating and long-term impact on economic growth, employment, and government debt levels.[126] Maintaining stable, effective, and well-regulated banking systems is therefore crucial for economic stability and growth.

There was a stark difference in the quality of the regulatory bodies in Brazil and Russia. Between 2002 and 2007, Brazil adopted a "more cautious and broader regulatory" approach compared to the international norm.[127] The banking regulations included robust reserve requirements, high capital ratios, and limited off-balance sheet items.[128] Brazil required foreign banking firms to maintain fully capitalized local subsidiaries, which, at the time, many viewed as a quixotic requirement that raised the costs of funds for

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[125] Bloomberg Data, accessed Jan. 31, 2011 (search data on file with journal). The central bank policy rates are the target interest rates that are set by central banks to effectuate monetary policy. Central banks will typically raise or lower interest rates in response to fluctuations in macroeconomic variables like GDP, unemployment, and inflation. *See* N. Gregory Mankiw, *Introduction* to MONETARY POLICY 9–10 (N. Gregory Mankiw ed., Univ. of Chicago Press, 1994).

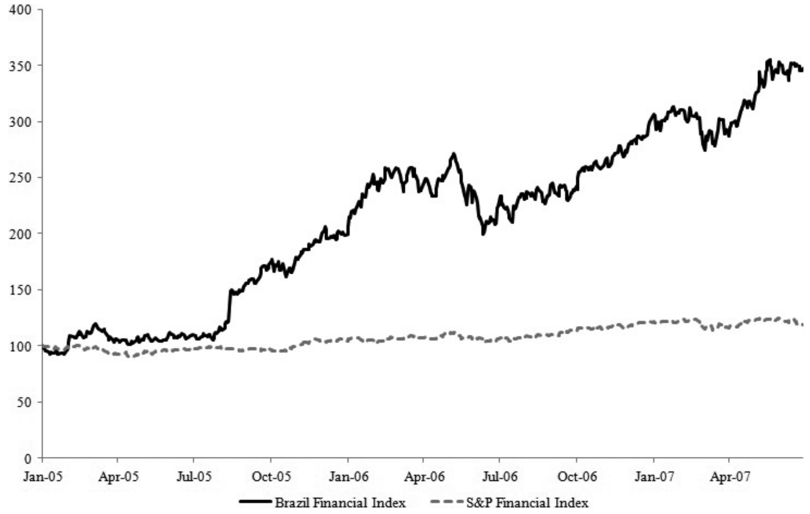
[126] *See* REINHART & ROGOFF, *see supra* note 9, at 172–73.

[127] Henrique Meirelles, Governor, Cent. Bank of Braz., Speech at the First Int'l Conference on Law & Econ. (Apr. 2, 2009), http://www.bis.org/review/r090414b.pdf.

[128] *See id.* (noting that Brazil adopted the highest capital ratios in Latin America).

international banks.[129] The central bank also carefully monitored the external financial position of banks.[130] By 2007, Brazil's banking sector was "trend[ing] towards international standards."[131] Reflecting the improving macroeconomic and regulatory environment, Brazilian financial sector stocks soared during the period relative to U.S. financial sector stocks (Figure 9).

FIGURE 9: RELATIVE BANK PERFORMANCE, JANUARY 2005 TO JUNE 2007[132]



Russia, by contrast, had a much weaker regulatory regime.[133] The banking sector was burdened by weak bankruptcy laws, a lack of transparency, and unpredictable legal and political systems.[134] The sector was dominated by one large public sector bank, Sberbank, which had accumulated a large fraction of domestic deposits and bank loans.[135] Furthermore, the major banks were heavily exposed to foreign currencies, making them vulnerable to a fall in the value of the domestic currency.[136] The country's financial

[129] *See* Gillian Tett, *Brazil Clips the Wings of Banks Adept at Capital Flight*, FIN. TIMES, Nov. 26, 2009, at 6.

[130] *See* Meirelles, *supra* note 127.

[131] *See* DANIEL ARAUJO, STANDARD & POOR'S, BANK INDUSTRY RISK ANALYSIS: FEDERATIVE REPUBLIC OF BRAZIL 14 (Nov. 29, 2006).

[132] Bloomberg Data, accessed Jan. 31, 2011 (search data on file with journal).

[133] *See* EKATERINA TROFIMOVA ET AL., STANDARD & POOR'S, BANK INDUSTRY RISK ANALYSIS: RUSSIAN FEDERATION 19–20 (Jun. 28, 2005).

[134] *See id.*

[135] *See id.* at 5.

[136] *See* Sergei Guriev & Aleh Tsyvinski, *Challenges Facing the Russian Economy after the Crisis*, *in* RUSSIA AFTER THE GLOBAL ECONOMIC CRISIS 9, 21 (Anders Aslund et al. eds. 2010).

sector, thus, was more weakly positioned for the financial crisis than Brazil's financial sector.

C. Fiscal Management and Political Climate

1. Fiscal Management

Emerging markets tend to have a lower tolerance for public debt than do developed countries.[137] High external debt levels in emerging markets have historically only been reduced through a combination of default and the rescheduling of external debt.[138] As discussed in Part II, both Brazil and Russia had large fiscal deficits in the 1990s and therefore were vulnerable to financial contagion during the exchange rate crises.[139]

Brazil improved its fiscal profile between 2002 and 2007. The country maintained large primary surpluses in the 2000s[140] and was thus able to reduce its debt to GDP ratio from 60.4% in 2002 to 45.5% in 2007 (Figure 10). Bond markets recognized this improvement, and the yields on the country's debt instruments declined sharply. By 2007, yields were at record lows.[141]

The soaring prices of oil and gas in the 2000s meant that Russia's fiscal position improved dramatically, and the central government started to run large and sustained fiscal surpluses.[142] The country paid down its central government debt, and the debt to GDP ratio declined from 34.1% in 2003 to 5.9% in 2007 (Figure 10). The government even set up a "Stabilization Fund" to save some of the oil and gas revenue that was flowing into the country because of relatively high commodity prices.[143]

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137 *See* Reinhart & Rogoff, *supra* note 9, at 33.

138 *See id.*

139 *See supra* Part II.B.

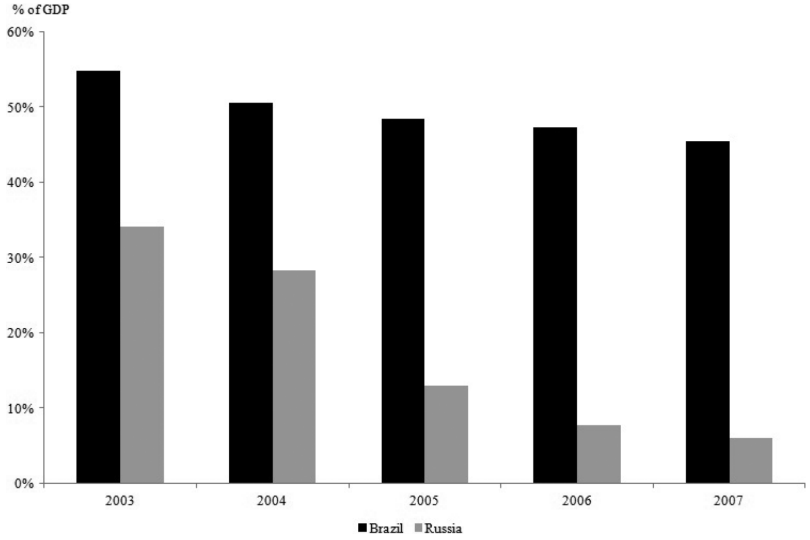
140 *See* Lisa M. Schineller & Helena Hessel, Standard & Poor's, Federative Republic of Brazil 8 (Apr. 6, 2007).

141 *See* Joanna Chung, *Premiums on Emerging Debt Approach Lows*, Fin. Times, Feb. 7, 2007, at 39.

142 *See* Neil Buckley, *Russia Ready to Spend Some of its New-Found Wealth*, Fin. Times, Aug. 18, 2005, at 4.

143 *See Stabilization Fund of the Russian Federation: About the Fund*, Ministry of Finance of the Russian Federation, http://www.minfin.ru/en/stabfund/about (last visited Oct. 16, 2011).

FIGURE 10: PUBLIC DEBT RELATIVE TO GDP, 2002 TO 2007[144]



2. *Political Stability, Transparency, and Consensus*

It cannot be overstated how important political and monetary institutions are to macroeconomic stability and growth.[145] A detailed comparison of the institutional structure of Brazil and Russia is beyond the scope of this Note, but it is important to observe the different market perceptions of the two countries' political regimes.

Since the election of President Lula, there has been widespread agreement that Brazil's political system has matured.[146] President Lula's decision to stick with orthodox economic policies means that there is now a "[t]rack record of policy continuity through political transitions" in Brazil.[147] After the successful recovery from the Argentinean financial crisis, Brazil's finance minster was heralded as "acquiring an aura of infallibility."[148] Brazil's central bank also offered transparency into its inner workings by making extensive information available on its website in English and Portuguese.

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[144] Bloomberg Data, accessed Jan. 31, 2011 (search data on file with journal).

[145] *See* Dani Rodrik, *Getting Institutions Right*, DICE 10, 10 (Feb. 2004), *available at* http://www.ifo.de/pls/guestci/download/CESifo+DICE+Report+2004/CESifo+DICE+Report+2/2004/dicereport204-forum2.pdf ("There is now widespread agreement among economists studying economic growth that institutional quality holds the key to prevailing patterns of prosperity around the world.").

[146] *See The Delights of Dullness*, ECONOMIST, Apr. 19, 2008, at 81–84 (noting that Brazil's democracy has "consolidated with the election of President Lula").

[147] SCHINELLER & HESSEL, *supra* note 140, at 1.

[148] *Painful Remedies Start to Pay Off*, ECONOMIST, Mar. 22, 2003, at 34–35.

The Russian government, by contrast, was widely characterized as drifting toward an authoritarian regime, with limited democratic pretensions.[149] The leaked U.S. Embassy cables even called Russia a "mafia state" and highlighted the prevalence of crony capitalism, corruption, and low levels of political transparency.[150] On the eve of the crisis, Russia's "political, legal, and economic institutions [remained] weak."[151]

III. Crisis Management

The financial crisis began in the mortgage markets, with the first cracks appearing in the United States in the first half of 2007.[152] By August, the crisis had spread to Europe, and policymakers on both sides of the Atlantic regularly intervened to calm financial markets.[153] With losses on subprime loans rapidly increasing, banks were forced to raise new equity capital, which in many cases came from emerging market sovereign wealth funds.[154] Britain even faced its first bank run since Victorian times.[155]

The general consensus during the first year was that emerging market economies were likely to "decouple" from the crisis in developed economies or, at the very least, experience a much milder crisis.[156] Policymakers in emerging markets were more concerned about high rates of inflation than about low rates of growth, especially given the sharp increase in commodity prices.[157] Even as late as September 2008, days before the collapse of Lehman Brothers, Brazil's central bank raised its target interest rate, citing inflationary pressures in the economy.[158]

However, the collapse of Lehman Brothers set off a global panic that soon enveloped emerging markets including Brazil and Russia.[159] This Part outlines the different policy responses that Brazil and Russia undertook to combat the global financial panic. It then empirically evaluates the policy responses in three different areas: (A) Currency, Reserves, and External

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149 *See generally Who Needs Democracy?*, Economist, May 22, 2004, at S12–S14.

150 *See* Luke Harding, *Wikileaks Cables Condemn Russia as "Mafia State,"* Guardian, Dec. 1, 2010, http://www.guardian.co.uk/world/2010/dec/01/wikileaks-cables-russia-mafia-kleptocracy.

151 Frank Gill & Moritz Kraemer, *Russian Federation*, Standard & Poor's 1 (Sep. 26, 2007).

152 *See Timeline: Sub-prime Losses*, BBC News, May 19, 2008, http://news.bbc.co.uk/2/hi/business/7096845.stm.

153 *See id.*

154 *See Asset-Backed Insecurity*, Economist, Jan. 19, 2008, at 78–80.

155 *Labour's Moment of Peril*, Economist, Sep. 22, 2007, at 38.

156 *See* Neil Hume, *London Investors Buy into Decoupling Theory*, Fin. Times, Oct. 13, 2007, at 9; *see also The Decoupling Debate*, Economist, Mar. 8, 2008, at 79–81.

157 *See An Old Enemy Rears Its Head*, Economist, May 24, 2008, at 91–93.

158 *See* Banco Central Do Brasil, Minutes of the 137th Meeting of the Monetary Policy Committee 6–9 (Sep. 9–10, 2008), http://www4.bcb.gov.br/pec/gci/ingl/COPOM/COPOM20080930-137th%20Copom%20Minutes.pdf.

159 *See Beware Falling BRICs*, Economist, Sep. 20, 2008, at 92.

Management, (B) Monetary and Fiscal Policy, and (C) Bank Regulation and Interventions.

A. Currency, Reserves, and External Management

Following the collapse of Lehman Brothers, currencies across the emerging world came under pressure as investors shed risky assets to boost dollar liquidity.[160] Brazil and Russia both experienced large outflows of capital and their respective currencies declined sharply (Figure 11).

FIGURE 11: RELATIVE BRIC CURRENCY PERFORMANCE, FINANCIAL CRISIS[161]

Initially, Brazil conserved its foreign exchange reserves by allowing its currency to depreciate.[162] Only after the real had depreciated significantly did Brazil's central bank step in to support the currency.[163] Even then, currency interventions were primarily aimed at ensuring liquidity and managing excessive exchange rate volatility.[164] The total volume of the country's inter-

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[160] *See id.*

[161] Bloomberg Data, accessed Jan. 31, 2011 (search data on file with journal).

[162] *See* Mário Mesquita & Mário Torós, *Brazil and the 2008 Panic*, BANK OF INT'L SETTLEMENTS 116 (Dec. 2010), http://www.bis.org/publ/bppdf/bispap54f.pdf.

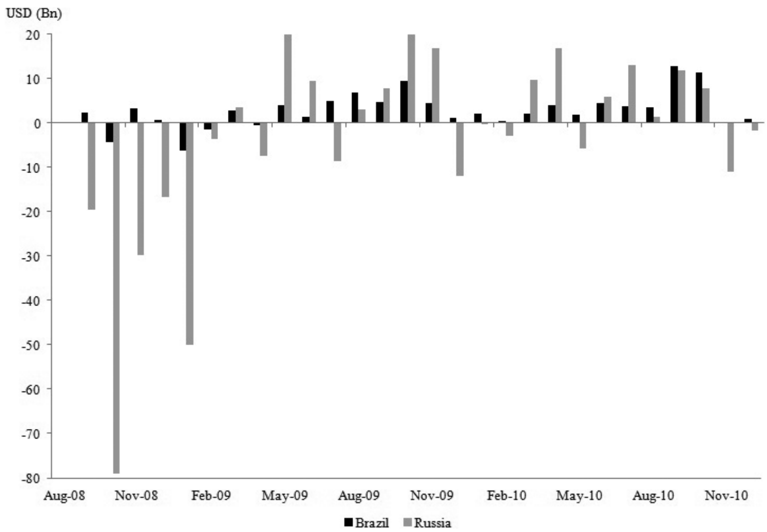
[163] *See* Jonathan Wheatley, *Brazil Steps In to Shore Up Real*, FIN. TIMES, Oct. 9, 2008, at 6.

[164] *See* ORG. FOR ECON. COOP. & DEV. , ECONOMIC SURVEY OF BRAZIL, 2009 3 (2009), http://www.oecd.org/dataoecd/35/18/43247511.pdf.

ventions in the currency markets was limited, and the country did not expend significant foreign exchange resources (Figure 12).

Russia, by contrast, seemingly believed that it had a sufficient buffer of foreign exchange reserves and tried to defend its peg to the euro and dollar.[165] Foreign investors had lost confidence in Russia's stock market and were withdrawing assets from Russia.[166] In the face of this exodus, the central bank spent hundreds of billions of dollars to try and stop the rouble from depreciating (Figure 12).[167] The government also suspended trading in the stock markets to halt the sharp decline in share prices.[168] Nevertheless, the stock market continued to decline sharply (Figure 12). After expending over $160 billion in reserves in defending the currency, the country was forced to devalue the rouble by the end of the 2008.[169] Following the devaluation, both the real and the rouble settled at roughly the same level (Figure 11), despite Russia's massive intervention during the crisis (Figure 12).

FIGURE 12: MONTHLY CHANGE IN FOREIGN EXCHANGE RESERVES, FINANCIAL CRISIS[170]



[165] *See Shrinking Cushion*, ECONOMIST, Nov. 24, 2008, http://www.economist.com/node/12670518.

[166] *See* Peter Garnham, *Russia Faces a Dilemma Over Rouble*, FIN. TIMES, Nov. 29, 2008, at 17.

[167] *See* Catherine Belton, *Rouble Exodus Hits Russia Credit Rating*, FIN. TIMES, Dec. 9, 2008, at 1; *see also The Flight from the Rouble*, ECONOMIST, Nov. 22, 2008, at 64.

[168] *See* Andrew E. Kramer, *In Russia, a Struggle for Markets Just to Stay Open*, N.Y. TIMES, Oct. 9, 2008, at B5.

[169] Neil Dennis, *Russia Allows Further Depreciation of Rouble*, FIN. TIMES, Dec. 11, 2008, http://www.ft.com/cms/s/0/b7ccb1d0-c77a-11dd-b611-000077b07658.html#axzz18Q3gt0aO.

[170] Bloomberg Data, accessed Jan. 31, 2011 (search data on file with journal).

Why did Russia insist on defending the currency peg? On average, countries that relied on external private debt financing were more vulnerable to the crisis than those that relied primarily on external equity financing.[171] Russian companies had borrowed extensively in foreign capital markets and now faced difficulties in refinancing their debts.[172] If the rouble depreciated sharply, this debt would become much more onerous to service. This was particularly problematic for the government because many of the companies involved were either state-owned enterprises such as Gazprom, Russia's largest natural gas extractor, or companies controlled by politically powerful oligarchs.[173] The Russian government could not allow such companies to default. In addition, the increasingly authoritarian Russian government had staked its legitimacy on the maintenance of macroeconomic stability and growth.[174] The collapse of the currency would undermine its domestic political credibility.

The Russian government established a $200 billion fund to help banks and companies that had difficulty refinancing their external debt.[175] Thus, private external debt, in a crisis, was transformed into public external debt. The scale of Russia's growing commitments and contingent liabilities put pressure on its credit ratings and undermined the fiscal position of the central government.[176]

Brazil's private sector was less exposed to the real's depreciation, and therefore Brazil's government was able to respond with smaller, more targeted interventions. These interventions were targeted at those sectors of the economy that were struggling to cope with the exchange rate volatility. For instance, Brazil's central bank offered U.S. dollar loans to exporters to help them deal with temporary shortages in dollar liquidity.[177] The private sector was also helped by Brazil's improved external outlook, which helped support its ratings.[178]

One of the clear lessons from the financial crisis is that building extensive foreign exchange reserves is not sufficient to avoid contagion.[179] The net

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[171] *See* Chief Economist Office, Latin Am. & the Caribbean Region, World Bank, Update on the Global Crisis: The Worst is Over, LAC Poised to Recover 25 (2009), http://siteresources.worldbank.org/EXTLACOFFICEOFCE/Resources/870892-119731497 3189/CrisisUpdateAnnualMtgs.pdf.

[172] *See* Arkady Ostrovsky, *The Long Arm of the State*, Economist, Nov. 29, 2008, at 6–8.

[173] *See id.*

[174] *See Boom to Bust and Worse*, Economist, Dec. 16, 2008, http://www.economist.com/node/12797734.

[175] *See Kremlinomics*, Economist, Oct. 18, 2008, at 60.

[176] See Frank Gill & Moritz Kraemer, Standard & Poor's, Russia Outlook Revised to Negative from Stable as Bank Rescue Costs Rise 2 (Oct. 23, 2008).

[177] *See* Jonathan Wheatley, *Brazil Issues $1.6bn in Loans to Assist Exporters*, Fin. Times, Oct. 21, 2008, at 3.

[178] *See* Sebastian Briozzo & Lisa M. Schineller, Standard & Poor's, Federative Republic of Brazil 17 (Jul. 1, 2009).

[179] *See* Michael Dooley, *Central Bank Responses to Financial Crises*, Bank of Int'l Settlements 34 (Mar. 2010), http://www.bis.org/publ/bppdf/bispap51g.pdf.

external position of the country, including both public and private sector debt, was a significant determinant of external vulnerability.[180]

FIGURE 13: RELATIVE STOCK MARKET PERFORMANCE, FINANCIAL CRISIS[181]

B. Monetary and Fiscal Policy

During the crisis, countries operating under flexible exchange rates and inflation-targeting regimes were better able to undertake countercyclical monetary policy.[182] Brazil's central bank, having established domestic and international credibility, was able to reduce interest rates starting in November of 2008, even in the face of a sharply depreciating currency (Figure 14). Russia, by contrast, was forced to raise interest rates to defend its currency.[183] Eventually, Russia's central bank was also able to reduce interest rates, and by July 2009, interest rates were back down to pre-crisis levels. However, by this time, Brazil's central bank had been able to lower rates by 450 basis points relative to pre-crisis levels (Figure 14). Brazil, thus, had much more monetary flexibility during the crisis.

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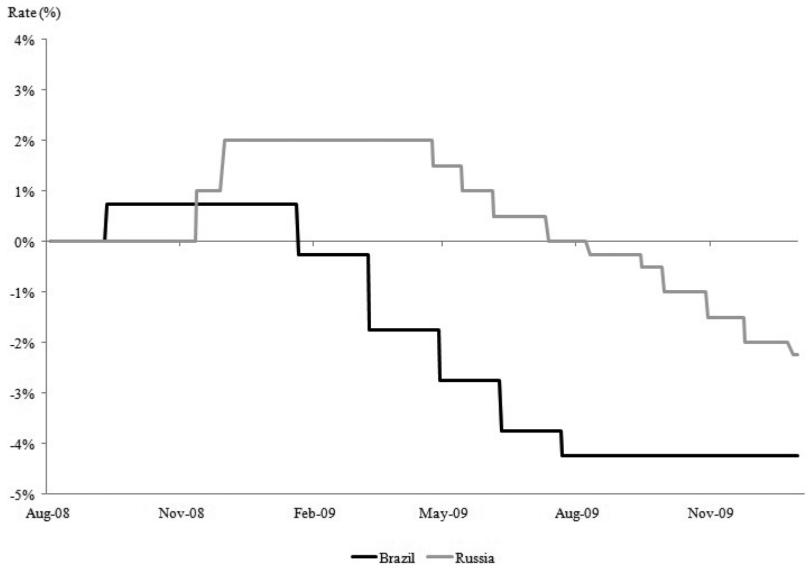
[180] *See id.* at 34.

[181] Bloomberg Data, accessed Jan. 31, 2011 (search data on file with journal).

[182] *See* CHIEF ECONOMIST OFFICE, WORLD BANK, *supra* note 171, at 6.

[183] *See* Charles Clover, *Moscow Signals Depreciation of Rouble*, FIN. TIMES, Nov. 12, 2008, at 4.

FIGURE 14: CENTRAL BANK POLICY RATES, FINANCIAL CRISIS[184]



Brazil's room for countercyclical fiscal policy, however, remained more limited.[185] Brazil's government could support a discretionary fiscal stimulus of only 0.6% of GDP in 2009, which was among the smallest stimulus programs in the G-20.[186] Russia, by contrast, was able to provide the largest fiscal stimulus amongst the G-20 countries at 4.1% of GDP.[187] However, the scale of the stimulus program and the bailout packages, combined with the sharp contraction in economic activity, meant that Russia's fiscal situation had declined considerably and was hurting Russia's credit profile.[188] The quality of Russia's public balance sheet had declined considerably since the start of the crisis.

Partly as a result of Brazil's policy flexibility, Brazil's recession was milder and the recovery was much stronger (Figure 15).

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[184] Bloomberg Data, accessed Jan. 31, 2011 (search data on file with journal). The chart shows changes in central bank policy rates instead of absolute levels because the impact of expansionary monetary policy depends upon the change in policy rate.

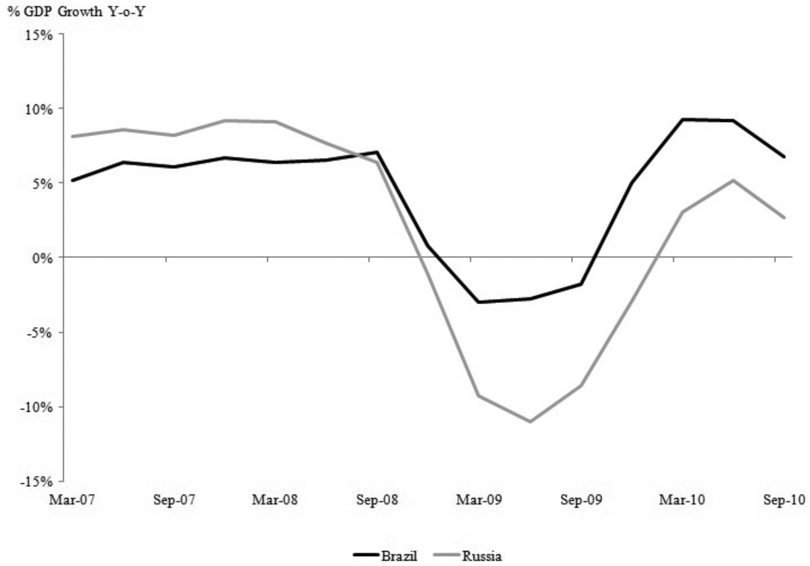
[185] *See* BRIOZZO & SCHINELLER, *supra* note 178, at 3.

[186] *See Update on Fiscal Stimulus and Financial Sector Measures*, INT'L MONETARY FUND 5 (Apr. 26, 2009), http://www.imf.org/external/np/fad/2009/042609.pdf.

[187] *Id.*

[188] *See* FRANK GILL & KAI STUKENBROCK, STANDARD & POOR'S, RUSSIAN FEDERATION 11 (SEP. 10, 2009).

FIGURE 15: GDP GROWTH, 2007 TO 2010[189]



C. Bank Regulation and Interventions

On the eve of the financial crisis, Brazil's financial sector was conservatively regulated. The strict regulatory environment helped Brazil avoid some of the problems that were seen elsewhere. For instance, Brazil's requirement that local branches of foreign banks maintain fully capitalized subsidiaries meant that foreign banks were unable to withdraw capital from Brazilian subsidiaries during the crisis.[190] Furthermore, Brazil's regulatory system was not blindsided by off-balance sheet banking liabilities because the regulators had focused on consolidated financial regulation and insisted on keeping transactions on-balance sheet.[191]

This does not mean that Brazil's banking sector was immune to the financial crisis. After the collapse of Lehman Brothers, bank stocks dropped sharply (Figure 16). Faced with contracting credit markets and reduced private sector risk tolerance, the government enacted a series of targeted measures. During the crisis, like a number of other emerging market economies, Brazil used state financial institutions to kick-start lending and to provide liquidity to asset markets.[192]

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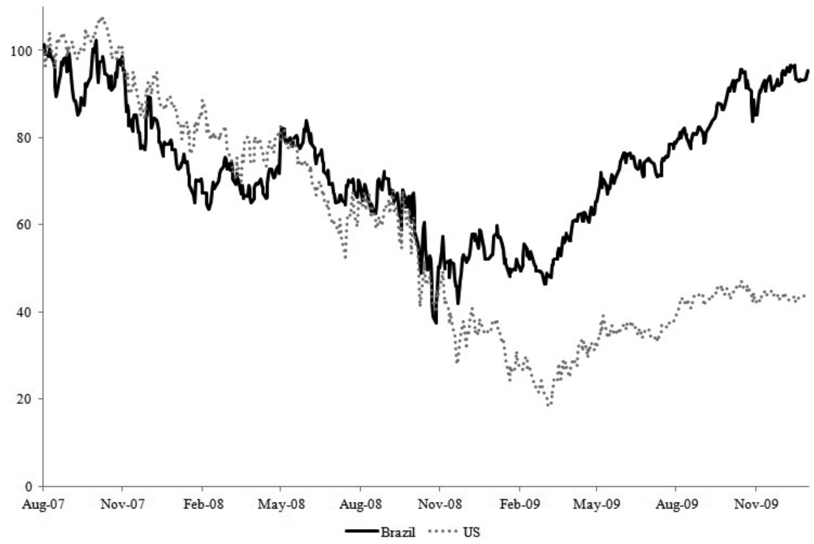
[189] Bloomberg Data, accessed Jan. 31, 2011 (search data on file with journal).

[190] *See* Tett, *supra* note 129, at 6.

[191] *See* Jonathan Wheatley, *Tight Rules Helped Mitigate Crisis in Brazil*, FIN. TIMES (Jul. 16, 2009), http://www.ft.com/cms/s/0/bfc6f4ce-5ab7-11de-8c14-00144feabdc0.html#axzz18PxCvc1a.

[192] *See* Heinz P. Rudolph, *Crisis Response: State Financial Institution*, WORLD BANK, Jan. 2010, http://rru.worldbank.org/documents/CrisisResponse/Note12.pdf.

FIGURE 16: RELATIVE FINANCIAL INDEX PERFORMANCE, FINANCIAL CRISIS[193]



Brazil directed its state-owned banks to purchase loan portfolios from a small set of weaker private sector banks that were having liquidity problems.[194] This policy may have reduced the need for a fire sale of such assets, averting a downward spiral of the sort that caused problems in other financial systems.[195] Brazil also encouraged stronger banks to acquire weaker banks, which strengthened the financial sector by increasing confidence in the banking system as a whole since there were fewer weaker banks that could potentially fail. One such transaction was Banco Itaú's acquisition of Unibanco to form Itaú Unibanco, the largest private sector bank in Brazil.[196] The central bank also reduced its normally high reserve requirements for banks to enhance domestic liquidity.[197] Most importantly, the country also avoided making large fiscal commitments to the banking sector, like injecting equity or guaranteeing loan deposits, and thereby prevented its fiscal profile from deteriorating during the crisis.[198]

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[193] Bloomberg Data, accessed Jan. 31, 2011 (search data on file with journal). The chart includes only Brazilian and U.S. financial indexes because there is no comparable index for Russia.

[194] *See* Rudolph, *supra* note 192, at 2.

[195] *See* Samuel G. Hanson et al., *A Macroprudential Approach to Financial Regulation*, 25 J. ECON. PERSPS. 3, 15 (2011).

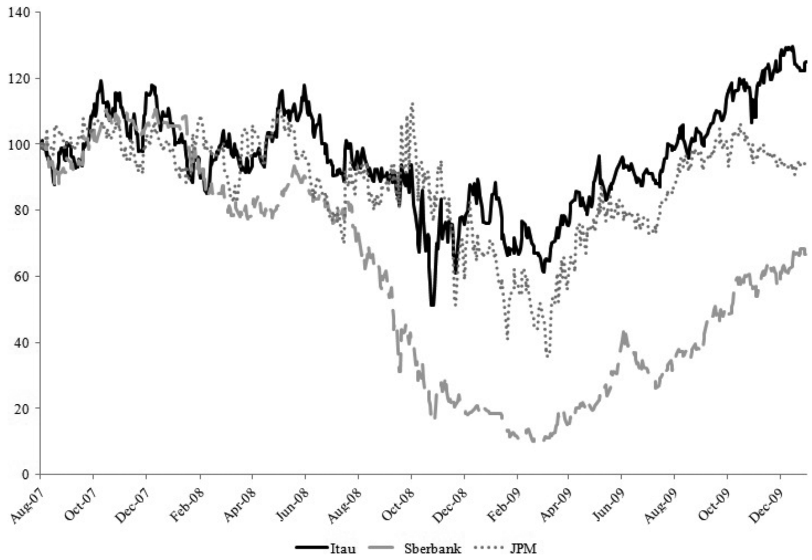
[196] *See* Rob Cox & Hugo Dixon, *A Bright Spot in Tough Times*, N.Y. TIMES, Nov. 3, 2008, at B2.

[197] *See Economic Survey of Brazil*, *supra* note 164, at 3.

[198] *See* Constantinos Stephanou, *Crisis Response: Dealing with the Crisis*, WORLD BANK, June 2009, http://siteresources.worldbank.org/FINANCIALSECTOR/Resources/Crisis_Response_Dealing_with_the_Crisis.pdf (noting that Brazil only intervened by providing li-

After the initial panic, Brazil's banking system responded well to the financial crisis and outperformed the U.S. financial sector (Figure 16). In fact, the share price of Itaú Unibanco performed better than JP Morgan Chase (Figure 17), the bank considered to be the strongest in the United States.[199] Brazil's strong pre-crisis regulatory environment, coupled with targeted interventions during the crisis, ensured that the banking system remained stable and was able to channel credit to the economy.[200]

FIGURE 17: RELATIVE BANK STOCK PERFORMANCE, FINANCIAL CRISIS[201]



There were, however, some problems on the non-financial side. Some Brazilian industrial firms such as Aracruz and Sadia had bet on the continued appreciation of the real and suffered large losses when the currency

quidity or undertaking measures to expand lending); *see also* INT'L MONETARY FUND, UPDATED STOCKTAKING OF THE G-20 RESPONSES TO THE GLOBAL CRISIS: A REVIEW OF PUBLICLY ANNOUNCED PROGRAMS FOR THE BANKING SYSTEM 5, 11, 28 (Sept. 3–4, 2009), http://www.imf.org/external/np/g20/pdf/090309b.pdf.

[199] This graph is particularly striking because J.P. Morgan was considered to be one of the strongest banks in the world with a "fortress balance sheet." *JPMorgan on Passing the Stress Tests*, N.Y. TIMES DEALBOOK BLOG (May 8, 2009, 9:50 AM), http://dealbook.nytimes.com/2009/05/08/jpmorgan-on-passing-the-stress-tests/?scp=2&sq=fortress%20balance%20sheet&st=cse.

[200] *See* Mesquita & Torós, *supra* note 162, at 118–119.

[201] Bloomberg Data, accessed Jan. 31, 2011 (search data on file with journal).

depreciated sharply.[202] These companies needed to be bailed out by the Brazilian government and the public sector banks.[203]

By contrast, Russia's financial system nearly collapsed during the crisis. Following a run on Globex, a midsized Russian bank, many Russians began to withdraw money from smaller local banks.[204] Given the mounting problems in its banking system, Russia was forced to adopt a wide array of policy responses to deal with the crisis, including increased deposit insurance, guarantees on bank debt, capital and liquidity support, and purchases of troubled assets.[205] Russia also intervened through the state development bank, Vnesheconombank, to help companies refinance their debts.[206] To support these measures, Russia was forced to use funds from its sovereign wealth funds and foreign exchange reserves.[207]

Even after the initial panic, Russian banks continued to face substantial macroeconomic, credit, and liquidity risks.[208] Confidence in the banking system was low because of poor transparency, disclosure, and regulation.[209] As a reflection of these concerns, the share price of Russia's largest public sector bank, Sberbank, dropped precipitously during the crisis and did not recover to pre-crisis levels by the end of 2009 (Figure 17).

Conclusion

The financial crisis has been a quintessential "teachable moment" for policymakers in developed and emerging markets. This Note has outlined some of the lessons of this moment by exploring how the financial crisis played out in two large, emerging-market commodity exporters.

Although Brazil and Russia came into the crisis in relatively similar positions, Brazil's macroeconomic performance has been far superior to Russia's. Brazil's economy, stock market, and currency were more stable during the crisis and they have recovered more swiftly since the crisis. This divergence can be explained in part by differences in the underlying economic

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[202] *See* Jonathan Wheatley, *Currency Bets Catch Out Brazil's Aracruz, Sadia*, Fin. Times, Mar. 27, 2009, http://www.ft.com/cms/s/0/adc3b99e-1afa-11de-8aa3-0000779fd2ac.html#axzz1FhcXX2Zl.

[203] *See* Jonathan Wheatley, *Brazil Gives Go-Ahead to Aid*, Fin. Times, Oct. 23, 2008, at 17.

[204] *See* Charles Clover & Catherine Belton, *Run on Russian Bank Heightens Fears*, Fin. Times, Oct. 15, 2008, at 3.

[205] *See* Stephanou, *supra* note 198, at 5 (noting that Russia intervened through a variety of measures to support the banking system including increased insurance); *see also* International Monetary Fund, *supra* note 198, at 5, 11, 28.

[206] *See The Russian Government Lends $10 Billion to Cash-Strapped Firms*, Economist, Oct. 31, 2008, http://www.economist.com/node/12537922.

[207] *See* Rudolph, *supra* note 192, at 2.

[208] *See* Annette Ess & Ekaterina Trofimova, Standard & Poor's, Kazakh, Russian, and Ukrainian Banks Face Another Tough Year of Poor Asset Quality and Thin Liquidity 3 (May 19 2009).

[209] *See id.* at 5.

and political dynamics in the two countries. For instance, as outlined in Part III, Brazil's economy was less dependent on exports than Russia's economy. Furthermore, although both countries relied on commodity exports, Brazil's export basket was relatively more diversified and included agricultural products, metals, and fuels. Russia's exports, by contrast, were primarily related to oil and gas. Brazil's greater commitment to stable and transparent democratic regimes also engendered more confidence in Brazil's macroeconomic and financial response to the crisis.

Finally, policy choices prior to and during the crisis contributed to the divergence in economic performance between the two countries. This Note has explored some of the policy differences that allowed Brazil to enjoy a relatively smoother and more stable passage through the crisis.

At least three major normative lessons can be drawn from this comparative work. The first lesson is that a robust public sector balance sheet can be undermined by a vulnerable private sector balance sheet. Russia came into the crisis with a fortress balance sheet; it had large foreign exchange reserves and extremely low levels of public debt relative to GDP. Brazil, by contrast, had relatively high levels of public debt and elevated interest rates. However, during the boom years, Russia's private sector had borrowed extensively in the international capital markets at relatively short maturities. During the crisis, these loans could not be refinanced and the Russian government responded by assuming these liabilities. Brazilian firms, by contrast, were more prudent in their international borrowing. Although there were isolated difficulties in refinancing international debt, Brazil's companies were able to continue to finance their obligations. The key point here is that public sector discipline is not sufficient; emerging markets should manage total external liabilities.

The second lesson is that financial crises require targeted and deft interventions that effectively use the government's financial firepower. Brazil's government reacted to the crisis through a series of limited foreign exchange and banking interventions that did not require the expenditure of significant public resources. By contrast, Russia's regulators enacted blunt interventions that quickly used up the state's financial resources, even though the resources were at record highs on the eve of the crisis. By assuming significant liabilities, and by expending billions of dollars defending an open-ended commitment to a currency peg, Russia's policy responses threatened the solvency of the state.

The crisis also demonstrated that accumulating vast foreign exchange reserves may not provide insurance against financial contagion and that countries should carefully consider the limits of this strategy given the large fiscal and social costs associated with holding these reserves. Before the crisis, Russia's foreign exchange assets were enormous by any reasonable measure. Yet, the financial crisis demonstrated that large foreign exchange reserves cannot mask underlying vulnerabilities in a country's economic and political institutions.

The third lesson is that the quality of financial and economic regulation matters. Before the financial crisis, Brazil's banking regulator transparently implemented robust and conservative financial regulations. Russia's financial regulatory regime was much weaker and more politically motivated. During the crisis, Brazil's policymakers responded with measured policy interventions that were supported by broad political consensus. Russia's policymakers adopted ad hoc policies that were heavily influenced by partisan political pressures. When some of these policies failed and the authorities had to reverse course, policymakers lost even more credibility with domestic and international investors. The quality and credibility of institutions were a major difference between the two countries.

* * *

Despite Brazil's successful navigation of the crisis, policy questions for the country's leadership remain. First, Brazil's currency has appreciated sharply since the crisis, which has caused some unease about potential overvaluation. This sharp rise has also raised concerns that the country's manufacturing base may become uncompetitive, which could lead to increased dependence on the commodities sector.[210] Second, Brazil implemented monetary and fiscal stimulus during the crisis to combat the decline in economic growth. Now that the crisis is over, the country needs to unwind some of those stimulus programs and restore monetary and fiscal discipline.[211] Brazil will need to address these concerns in the coming years. For now, the financial crisis has shown that the country is "beginning to deliver" on its "promise."[212] The future has arrived for Brazil.

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[210] *See* Joe Leahy, *Brazilian Factories Tested by Chinese Imports*, FIN. TIMES, Jan. 31, 2011, at 5.

[211] *See* Joe Leahy, *Fraga Warns on Brazilian Credit Growth*, FIN. TIMES, Feb. 23, 2011, http://www.ft.com/cms/s/0/a4ce09e2-3f89-11e0-a1ba-00144feabdc0.html#axzz1FhcXX2Zl.

[212] *Getting It Together at Last*, ECONOMIST, Nov. 14, 2009, at S3–S5.