July 2012
IMF Country Report No. 12/191

Brazil: 2012 Article IV Consultation—Staff Report; Public Information Notice on the Executive Board Discussion; and Statement by the Executive Director for Brazil

Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. In the context of the 2012 Article IV consultation with Brazil, the following documents have been released and are included in this package:

- The staff report for the 2012 Article IV consultation, prepared by a staff team of the IMF, following discussions that ended on May 22, 2012, with the officials of Brazil on economic developments and policies. Based on information available at the time of these discussions, the staff report was completed on June 22, 2012. The views expressed in the staff report are those of the staff team and do not necessarily reflect the views of the Executive Board of the IMF.

- A Public Information Notice (PIN) summarizing the views of the Executive Board as expressed during its July 9, 2012 discussion of the staff report that concluded the Article IV consultation.

- A statement by the Executive Director for Brazil.

The document listed below has been or will be separately released.

Selected Issues Paper

The policy of publication of staff reports and other documents allows for the deletion of market-sensitive information.

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INTERNATIONAL MONETARY FUND

BRAZIL

STAFF REPORT FOR THE 2012 ARTICLE IV CONSULTATION

June 22, 2012

KEY ISSUES

Context. The economy has cooled on the back of past policy tightening and drag from global shocks. Stimulus has been provided since last fall and a gradual recovery is expected. Growth in 2013–14 should be back to potential of about 4 percent. Medium term inflation expectations are well above the target mid-point which is a concern. Boosting competitiveness and potential growth remain key items on the policy agenda.

Near term policy settings. The staff supports the policy mix of easy money and tight fiscal. Under the current baseline, existing monetary policy settings are more than sufficiently supportive. A key issue is timing the eventual unwinding of stimulus to keep inflation on target in 2013. The continued adherence to the full 3.1 percent of GDP primary fiscal surplus target is appropriate and will keep debt on a declining path. Brazil retains effective tools to address transitory financial shocks and policy space to counteract a large negative adverse shock to domestic output.

Rebalancing. Further efforts are needed to achieve a rebalancing of domestic demand from consumption to foster saving and provide space for investment. This would lower interest rates and the exchange rate and support potential growth and stability.

Financial stability. The FSAP–Update highlights that financial supervision and banking system soundness are strong. As the financial system becomes more complex, some further enhancements of the prudential framework will be needed. At the same time, rapid credit growth is creating pockets of vulnerabilities, notably among consumers. Strengthened monitoring of household risk and steps to further enhance the macro-prudential framework will be helpful.

Policy response to past advice. In recent years the authorities have tightened fiscal settings to contain the level of demand and emphasized the role of monetary policy as the main countercyclical tool. Staff has supported this stance, stressing the importance of recognizing the lags with which monetary policy has effects. The authorities have seen the exchange rate adjust significantly, while using judiciously macro-policies and intervention. There has been a convergence in views that use of capital flow management measures to manage cyclical pressures is an appropriate part of this policy tool-kit. There is a shared sense of the importance of boosting saving, investment and competitiveness. The authorities are gradually taking steps here with pension reform, use of concessions to boost investment, and ongoing tax reforms.

Approved By
David Vegara and Tamim Bayoumi

This report was prepared by a team comprising V. Haksar (Head), C. Fernandez Valdovinos, M. Garcia-Escribano, J. Pereira, R. Perrelli, S. Roache (all WHD), M. Moreno Badia (FAD), P. Madrid and J. Park (MCM), and A. Ter-Martirosyan (SPR). It is based on discussions conducted in Brazil during May 8–22, 2012 during which the team met with Finance Minister Mantega, Central Bank President Tombini and other officials and private sector representatives.

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CONTEXT

A. Challenges

1. ***The past decade has seen a remarkable social transformation in Brazil, underpinned by macroeconomic stability and rising living standards.*** A strong policy framework (fiscal responsibility, inflation targeting and a flexible exchange rate), and improved income distribution and social outcomes have been important accomplishments. Together with the combination of rising terms of trade and economic and financial inclusion, this has supported sizable gains in private consumption and some increase in investment. Financial stability has been underpinned by a strong banking system and framework for regulation and supervision.

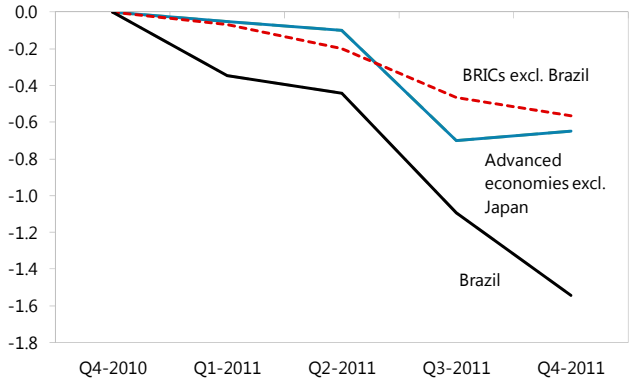
2. ***Building on these gains will need higher investment and saving***. Rebalancing demand from consumption to investment and net exports would help to secure strong, balanced growth going forward. Closing infrastructure gaps will help productivity and increase incentives for private investment. Relatively low saving and consumption-led growth—financed in part by buoyant credit expansion—have widened the current account deficit despite Brazil's large resource exports and substantial terms of trade gains. Demand rebalancing would begin to address these concerns, not only enhancing potential growth but also reducing exchange rate overvaluation pressures, thereby supporting external stability. The authorities have taken some important steps in this direction, including recent pension and tax reforms.

3. ***In the near term, navigating continued global turbulence en route to a sustained recovery is a key challenge***. During 2011, global shocks adversely affected confidence and trade, contributing to the sharp deceleration of economic activity in the second half of the year, and risks of further spillovers remain high. This complicates the challenge of calibrating domestic policy settings. It will be key to allow sufficient time for current policy easing to play out, while standing ready to take further action should downside risks materialize.

B. Cyclical state

4. ***Growth surprised on the downside last year***. A policy tightening cycle was appropriately launched during 2010–11 to cool overheating pressures and bring inflation gradually back to target. Macroprudential measures were also introduced to reduce stability risks in specific sectors. Earlier last year growth had been expected to moderate from 7½ percent in 2010 to 4 percent in 2011. In the event, activity stalled in 2011 Q3, slowing more than expected to 2.7 percent in 2011 (Figure 1). Indeed, the 2011 growth

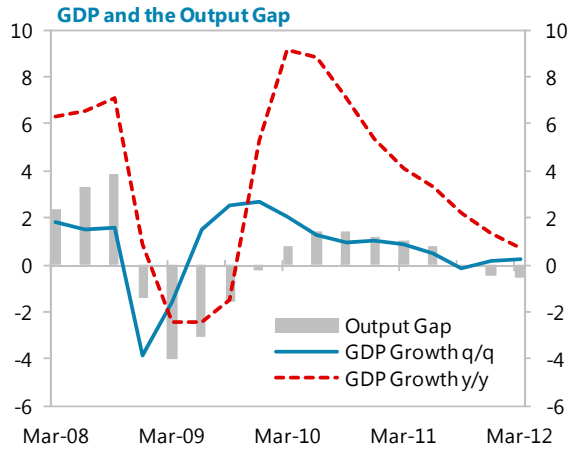
Changes in Consensus GDP Growth Forecasts for 2011
(percentage points, compared to forecast made at end 2010)



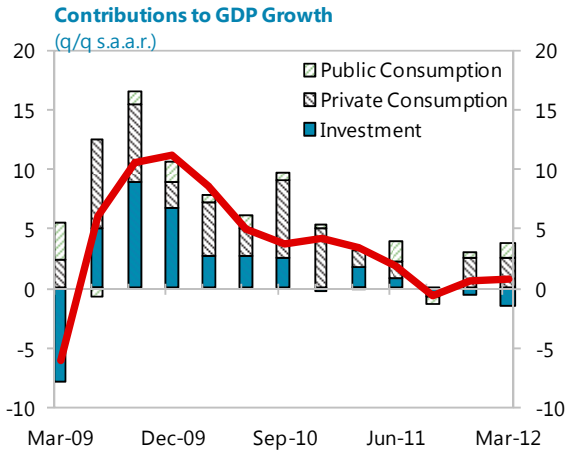
Source: Consensus Economics.

Figure 1. **Brazil: Cyclical State**

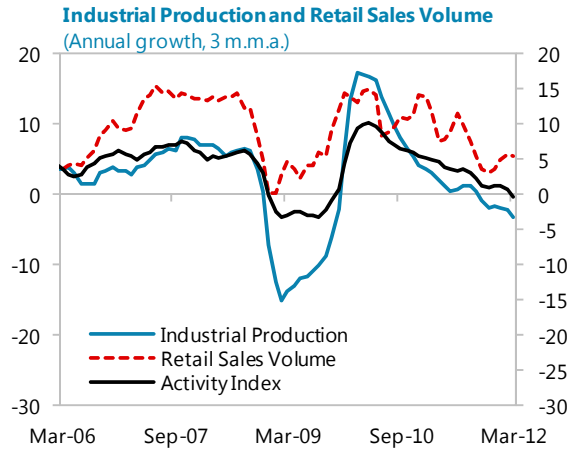
Activity slowed sharply last year ...



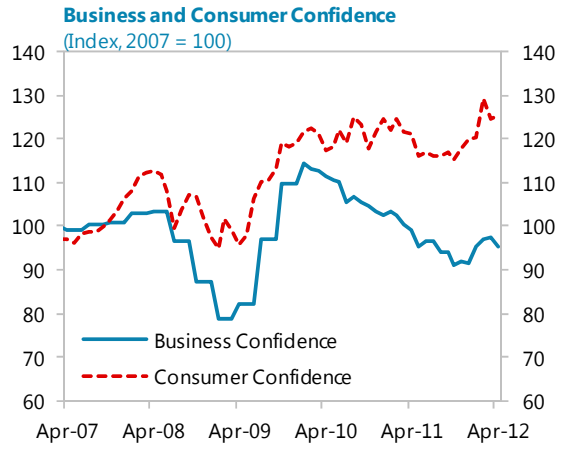
... reflecting a slump in domestic demand, especially investment



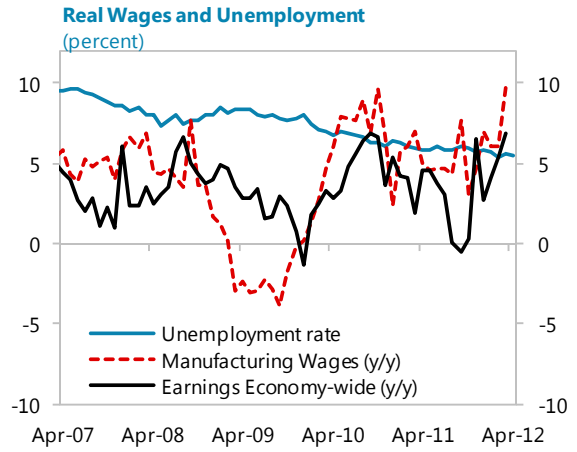
High frequency indicators suggest activity remains subdued ...



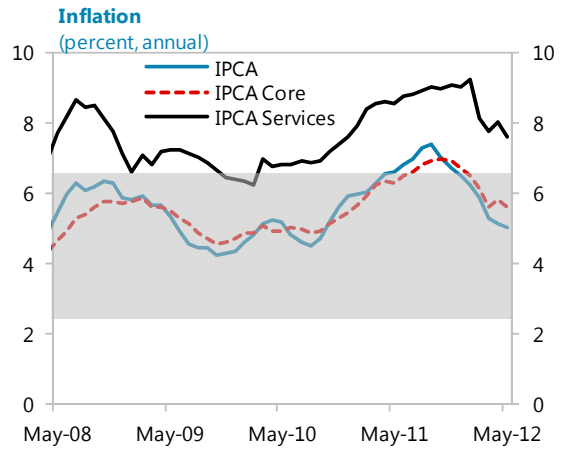
... though confidence has picked up.



The labor market remains tight, with strong wage growth.



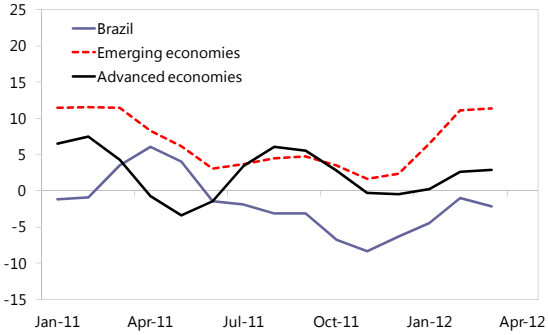
All measures of inflation have been falling, albeit still above the target mid-point.



Sources: Central Bank of Brazil; Haver Analytics and IMF staff calculations.

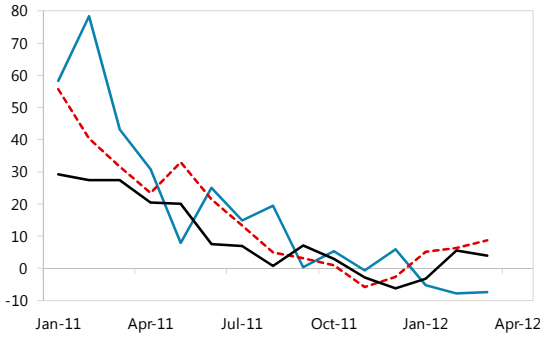
outlook for Brazil experienced one of the largest downward revisions compared to important peers. A number of factors could explain this larger-than-anticipated moderation. These include: (i) a deterioration in global sentiment in the second semester also dented business confidence and investment, (ii) a fall-off in intra-regional trade with Argentina, and (iii) tighter credit conditions in certain market segments. The staff's analysis suggests that the stronger exchange rate and rising relative unit labor costs also contributed to the weakness in industrial production (see Annex I).

Global Industrial production
(3-month moving average annualized percent)



Source: GDS, Fund staff estimates.

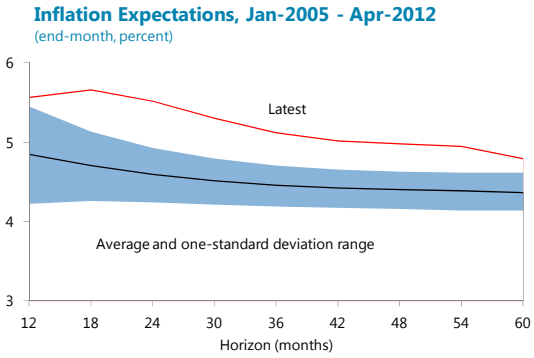
Global Merchandise Exports
(3-month moving average annualized percent)



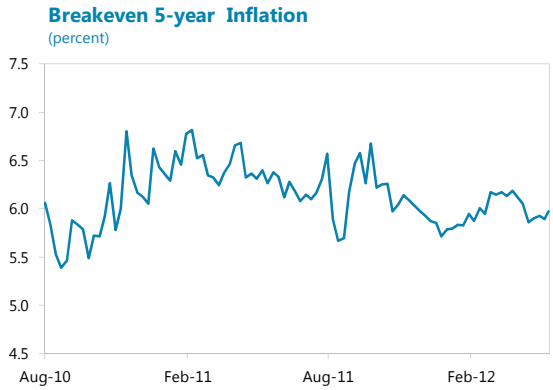
Source: GDS, Fund staff estimates.

5. ***Monetary policy has since been eased substantially though activity remains subdued***. The central bank has lowered the policy rate by 400 bps since August 2011, to 8.5 percent. Growth in 2012Q1 was 0.2 percent q/q (0.8 percent y/y), with weak investment and business confidence and slowing trade volumes. Industrial output remains moribund. Indeed, the key automobile sector, accounting directly for some 10 percent of industrial production, has been hard hit by falling demand, reduced auto-loan financing by banks since early 2011, and disruptions in trade with Argentina. The continued weakness of investment—which has contracted in the last several quarters—is particularly striking. Nonetheless, consumption has recovered since the third quarter of 2011, growing at an annual rate of 4 percent, on the back of improving confidence and still tight labor market conditions, including a 14 percent minimum wage increase.

6. ***Inflation is falling but expectations have deteriorated***. After peaking at 7.3 percent y/y in September 2011, headline inflation has dropped to 5 percent y/y in May. This decline reflects to some extent the unwinding of transitory supply factors and the effect of the normal periodic updating of the index weights. The lagged impact of moderating growth and the negative output gap on more sticky components of the index—including services—has also exerted some downward pressure. On the other hand, while still at low levels (3.7 percent y/y in April), wholesale price inflation has picked up in recent months, which could reflect incipient pass-through from the weaker exchange rate (see ¶9). Moreover, medium-term inflation expectations have worsened due to concerns about the level of rates and how quickly stimulus will be unwound as the economy recovers. However, the swap curve has stayed well-anchored at the 2–3 year horizon where trading is liquid, while break-even inflation from inflation-linked bonds has so far showed only a small drift upwards at longer horizons.

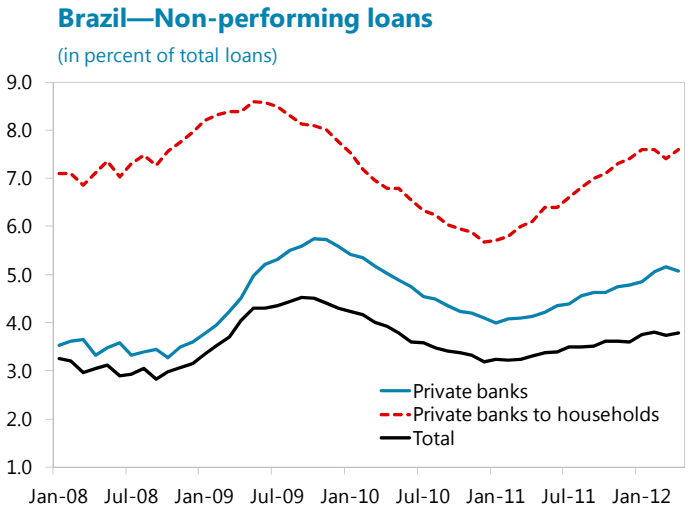


Source: Bloomberg.



Source: Bloomberg.

7. ***Consumer NPLs have drifted up, but overall financial stability conditions remain strong***. Consumer credit, especially for auto loans, picked up strongly in 2010 following the post-Lehman slump. In this period, maturities for car loans in particular were substantially extended and credit quality deteriorated. In response, the authorities introduced macroprudential measures at end-2010 to constrain excesses in these sectors. Since then credit has slowed, but NPLs associated with this vintage of lending have ticked up in private banks. Nonetheless, overall NPL rates remain low at 3.8 percent of loans, with those at public banks even lower (2 percent of loans). The system remains highly capitalized with overall low liquidity risks. More recently, the authorities have replaced the management at a small bank (accounting for 0.2 percent of system assets) following the discovery of some irregularities, with overall market reactions contained.



Source: Central Bank of Brazil and IMF staff estimates.

8. ***The external current account was broadly unchanged last year***. The trade balance improved modestly as decelerating in export volumes were more than offset by terms of trade gains and slowing imports—particularly in the second half of the year. This was partially balanced by higher outflows for income and services, mostly reflecting higher profit and dividend payments to foreign investors. In Jan–April 2012, the trade surplus has moderated due to lower external demand, declining prices for iron ore, and some drag from disturbances in regional trade.

9. ***Capital flows had weakened as global risks increased, but picked-up again in recent months.*** With calmer global conditions, capital flows and borrowing by residents picked up in the first quarter, averaging US$8 billion per month, compared to US$4½ billion in the last quarter of 2011. However flows weakened in Q2 2012, with portfolio investments remaining moribund (and

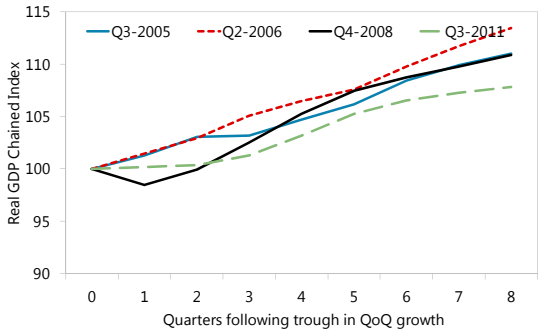
some reductions in equity investments) and outflows of short term financing. However foreign direct investment inflows (FDI) have remained buoyant and continue to largely fund the current account.

10. ***The exchange rate has weakened substantially this year, but remains well above the average level of 2004–08*** (Figure 2). The real has depreciated almost 8½ percent this year against the dollar (25 percent compared to July 2011 levels), equity markets have declined again recently and external spreads have risen somewhat. While exchange rates have depreciated this year across many emerging markets, the relative weakness of the real appears to reflect in part the downside growth surprise, falling interest differentials, as well as the recent drop in commodity prices important for Brazil, among other factors. However the local bond market has held up, reflecting both expectations of lower interest rates and the strength of the domestic investor base.

C. Outlook and risks

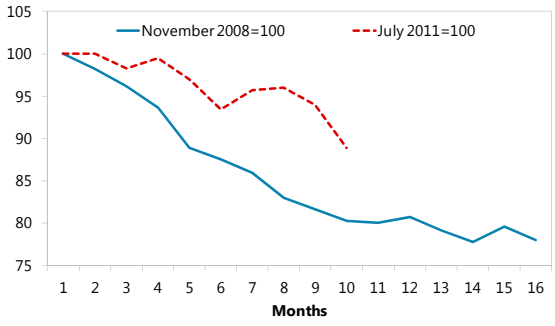
11. ***Activity is expected to pick up and grow above potential by end-2012***. In the staff's baseline, under current policy settings, the economy should gain momentum during the second half of the year, led by private domestic demand. The large minimum wage increase for 2012 is boosting disposable income, given widespread links to wages and minimum pensions. Employment creation, especially in the services sector remains strong. And the full effects of substantial monetary easing—while somewhat slower in this cycle reflecting the effect of rising NPLs on the transmission of monetary policy to lending rates and credit supply—should feed through by the second semester, supported also by the expected drop in NPLs (see ¶33).[1] After growing by 2.7 percent in 2011, output is expected to expand by over 4 percent q4/q4 in 2012 (though weak carryover from 2011 will keep full year growth to 2½ percent). The output gap should close by late 2013 with the economy growing at about 4½ percent in the year and close to 4 percent thereafter.

Brazil: GDP Growth Recoveries Since 1994
(seasonally adjusted chain-weighted index)



Source: Haver Analytics

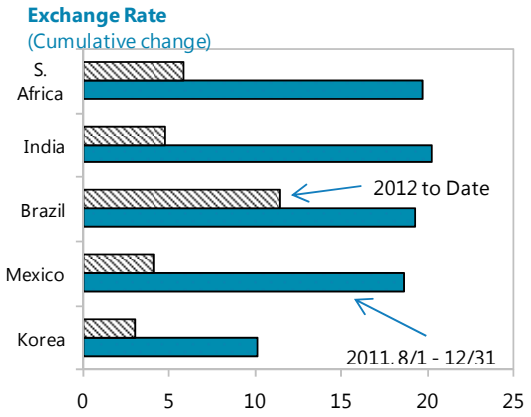
Brazil: evolution of bank lending rates
(in percent)



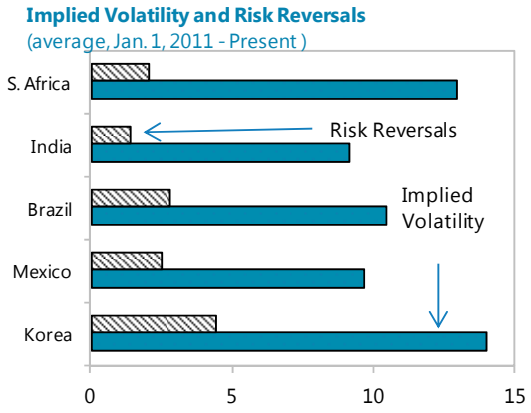
[1] Rising NPLs in principle can cause banks to increase spreads to cover credit losses. This could lead to a slower response of lending rates to falls in policy rates if banks are seeking to boost income to build provisions/capital.

Figure 2. Brazil: Financial Markets

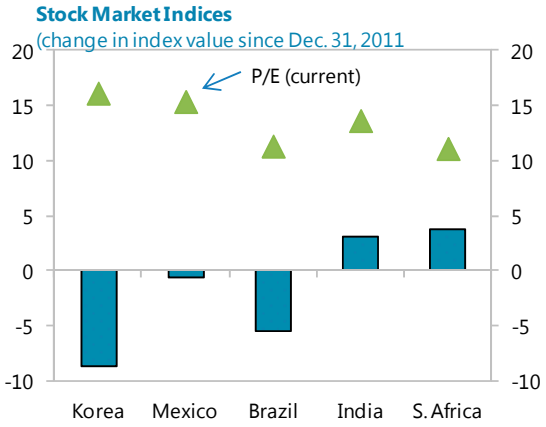
The real has weakened this year, including relative to other emerging markets.



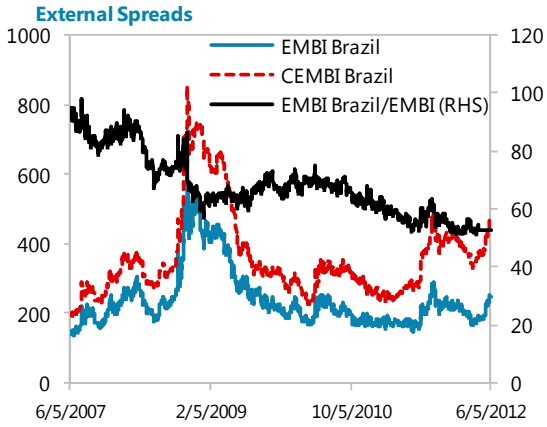
Exchange rate volatility and depreciation risks are similar to other emerging markets.



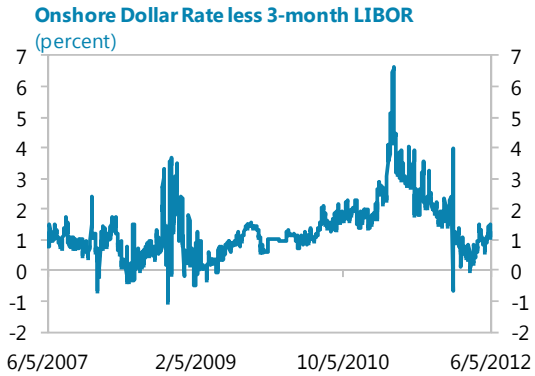
The stock market has weakened, but remains on the cheaper side relative to other emerging markets.



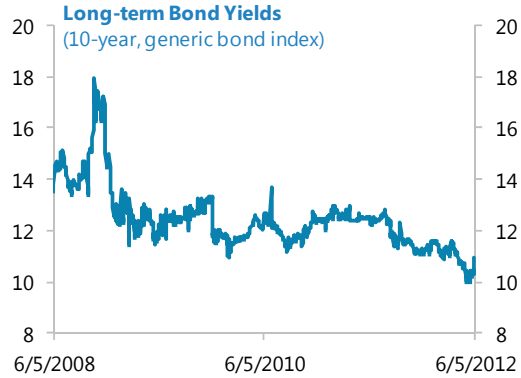
External spreads have risen in line with other emerging markets.



There are no signs of strain in onshore dollar funding.



Long term bond yields also remain low.



Sources: Bloomberg; Datastream Advance and IMF staff calculations.

12. ***Inflation is projected to hover just above the target mid-point through 2013 on the assumption of future policy tightening.*** Tax cuts on consumer durables, a slowing economy, and the absence of supply shocks or large corrections in administered prices should contribute to lower inflation by the end of 2012. Some upward pressures are likely to reemerge in 2013, reflecting a recovering economy and pass-through of exchange rate depreciation. The assumed withdrawal of monetary stimulus (see ¶17) should facilitate inflation convergence back towards the target mid-point, but this process is expected to be gradual given the high inflation persistence and elevated expectations. Upside risks to this baseline could arise during 2013 should the output gap close more rapidly than anticipated in response to recent policy easing. Indeed, staff's analysis (Annex II) suggests that, if current policy settings are maintained through 2013, odds are that inflation will remain well above the target mid-point.

13. ***The staff considers that risks to the outlook are broadly balanced***. The external environment, notably the intensifying crisis in Europe, presents the most prominent downside risk in the near term (see Risk Assessment Matrix).[2] Important spillover channels include the potential for tighter external financing conditions and lower commodity prices should shocks from Europe lead to significantly lower global growth prospects. On the upside, lending from public banks is picking up and may well contribute to accelerating overall credit growth by end-year putting pressure on demand into 2013. Also, pass-through from the weaker exchange rate could increase given that the process of sustained appreciation seems to have run its course for now, raising some upside inflation risks.

Brazil: Risk Assessment Matrix

	Up/down side	*Risk*	*Impact*	*Policy response*
Intensification of euro area recession Tightening of global financial conditions	↓	M	M	Flexible exchange rate would absorb some of the shock. Room for further monetary and fiscal policy stimulus to smooth shock.
Larger-than-expected policy easing and uncertainties about timing of withdrawal	↑	M	M	Unwind monetary and fiscal policy stimulus, including public credit.
Further euro-area deleveraging Reversal of capital flows	↓	M	M	Liquidity provision, including intervention in fx market and support for individual banks through central bank facilities.
Decline in commodity prices Hard-landing in China/Europe	↓	L	H	Use the exchange rate and international reserves as first shock absorbers.
Disorderly unwinding of credit boom and real estate price collapse	↓	L	M	FSAP shows that banks have sufficient capital to absorb even extreme shocks. Some offset to output cost from policy.

[2] While several downside risks are considered in the RAM, they would be expected generally to be fairly correlated, but are fleshed out to provide a full context for the staff's concerns.

14. ***Global and intra-regional spillovers have important effects on financial conditions and growth in Brazil, while outward spillovers to near-neighbors can also be large*** (see Annex III). Global spillovers to Brazil are felt through two main channels. First, the effects of commodity prices are sizable, in part due to the increasing share of Brazil's exports accounted for by primary products, including some that are very sensitive to the global business cycle (e.g., iron ore). Second, capital flows and asset prices. The last decade has seen a notable strengthening in Brazil's international investment position, but its role as a net capital importer and an emerging economy with relatively deep financial markets means that Brazil remains susceptible to changes in global financial conditions. Brazil is not especially vulnerable to spillovers relative to other G-20 emerging economies. Its exposure to foreign banks is close to that of its peers and the local funding structure of foreign subsidiaries mitigates risks of an adverse impact from foreign deleveraging. Its liability structure is also more equity-based which facilitates more risk-sharing. In an intra-regional context, disruptions to trade flows (including auto exports to Argentina) have had meaningful effects on domestic activity. Spillovers from Brazil can also have large effects on the output of its nearest neighbors, both directly but also due to its amplification of global financial shocks.

15. ***Brazil faces important medium term challenges.*** In the staff's medium term baseline, potential output growth is envisaged at about 4 percent, in line with the growth pattern of the last decade. There could be some downside risks for this, were the global crisis to be prolonged and commodity prices to fall on a more sustained basis. Rising investment could offset these downsides to potential growth, but for a balanced and sustainable growth trajectory, it would be important for national saving to rise. At the current level of the real exchange rate, the external current account deficit is projected to widen by over 1 percent of GDP in the medium term. This highlights the key policy challenge facing Brazil discussed in section E on rebalancing to raise investment and savings. With the current fiscal framework and objectives of a 3.1 percent of GDP primary balance being maintained, gross public debt levels are expected to continue to fall—by almost 10 percent of GDP in the medium term—reaching 55 percent of GDP by 2017. However, boosting public investment, but financing this out of fiscal saving, is a key policy challenge going forward.

ISSUES FOR DISCUSSION

Focus of the Consultation*: The fluid conjunctural environment, in the context of rapid credit growth, strong capital flows and a somewhat overvalued exchange rate, provide a foil for discussing key structural challenges that face Brazil. This year's consultation focuses on three issues that were discussed with the authorities. First, the appropriate near term macroeconomic policy settings, under the baseline but also in the event of a significant external shock. Second, how demand rebalancing can support sustainable growth and external stability. And lastly, financial stability risks—including those arising from the lending boom—drawing on the FSAP Update.*

A. What are the appropriate near term policy settings?

16. ***An important shift in the policy strategy was implemented starting last fall.*** The authorities announced last August that they would adhere to the full unadjusted 3.1 percent of GDP

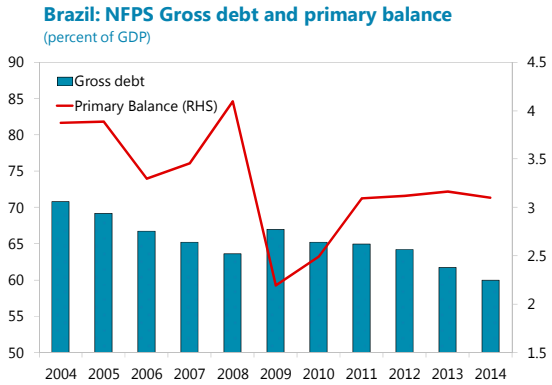
primary fiscal surplus target[3] going forward, allowing monetary policy to act as the main countercyclical policy tool. The authorities viewed that the economy was already slowing more than expected and that external downside risks were large. They considered that this should allow policy rates to be lowered substantially from the 12½ percent level then prevailing while bringing inflation down towards the target mid-point.

17. ***Monetary policy has been eased and fiscal settings are being tightened*** (Figure 3). Starting with a cut last August that surprised markets, interest rates have been lowered significantly and are currently at a historically low level (8½ percent). Meanwhile, the 2012 budget targets a primary balance of 3.1 percent of GDP. Government has also announced treasury transfers to BNDES of about 1¼ percent of GDP in 2012, unchanged from last year. Altogether, these imply continued spending restraint and a structural fiscal withdrawal of about 1 percent of GDP in 2012 (both with and without BNDES lending). Fiscal settings are assumed to remain broadly neutral in 2013 and beyond with a primary surplus of 3.1 percent of GDP being maintained in the medium term. This should pull gross debt down from 65 percent of GDP in 2011 to 55 percent of GDP by 2017.

Brazil: Fiscal Baseline, 2009-2013
(Percent of GDP, unless otherwise indicated)

	2009	2010	2011	2012	2013
Primary balance	2.2	2.5	3.1	3.1	3.2
Overall balance	-3.0	-2.7	-2.6	-1.9	-2.1
Structural primary balance	2.5	1.5	2.6	2.9	3.2
incl. policy lending 1/	-0.6	-1.5	1.4	1.7	2.7
Overall structural balance	-2.6	-3.7	-3.2	-2.1	-2.0
incl. policy lending 1/	-5.8	-6.6	-4.4	-3.3	-2.6
Memo items:					
Real primary spending growt	4.6	10.1	4.5	2.6	5.4
incl. policy lending 1/	11.5	9.6	-0.9	2.7	3.3

1/ Policy lending in 2010 excludes one-off operation related to BNDES participation in the recapitalization of Petrobras.

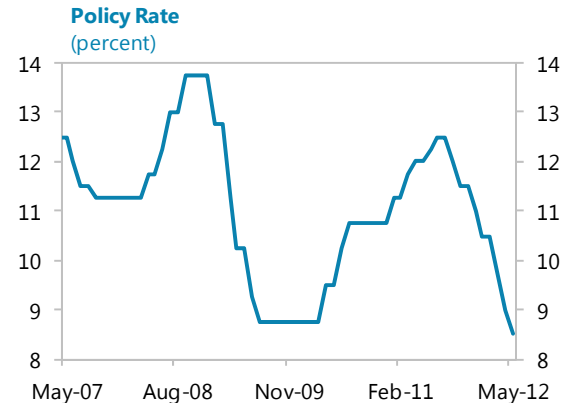


18. ***The authorities broadly agree that the economic recovery should gather momentum in the second half of 2012—there was shared concern that inflation expectations have risen.*** They noted that credit quality and new concessions are expected to increase as the year progresses, supporting the fuller transmission of monetary policy stimulus (see ¶10). The central bank in recent communications has signaled that low rates will be maintained for some time and this has tended to flatten out the swap curve through end-2012. However, many analysts have concurrently marked-up expectations for medium term inflation. While inflation is expected to converge at end-2012, medium-term inflation expectations are now at their highest level above the target mid-point since it was set at 4½ percent in 2005. The authorities noted that the central bank's decision to start easing last year had been met with much opposition from market participants, but that its assessment had in the event been validated by events. They also viewed that exchange rate pass-through would be contained by the weak cyclical state and that key challenges for policy

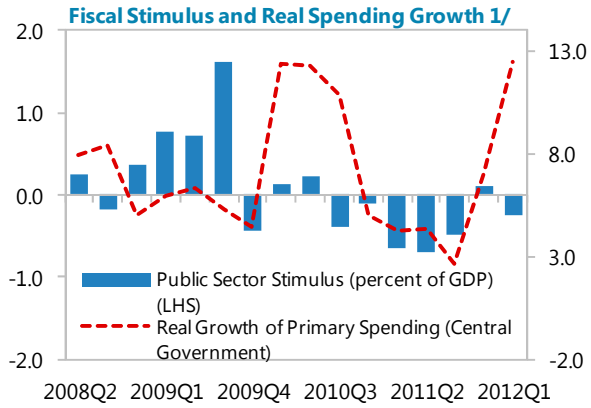
[3] Under the fiscal rule, the target could be lowered to allow higher investment, which in some scenarios this year could bring the primary surplus target down to 2.6 percent of GDP.

Figure 3. Brazil: Policies

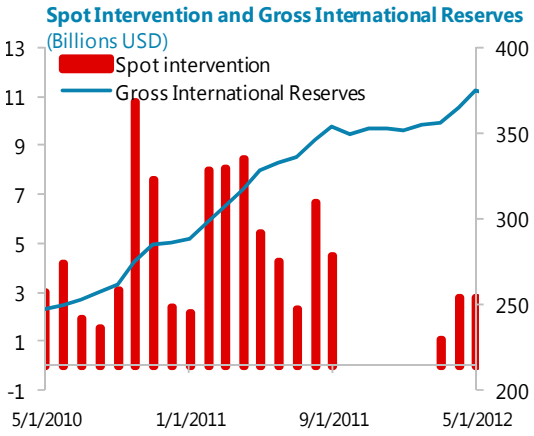
Monetary policy has been eased to historic lows since August of last year ...



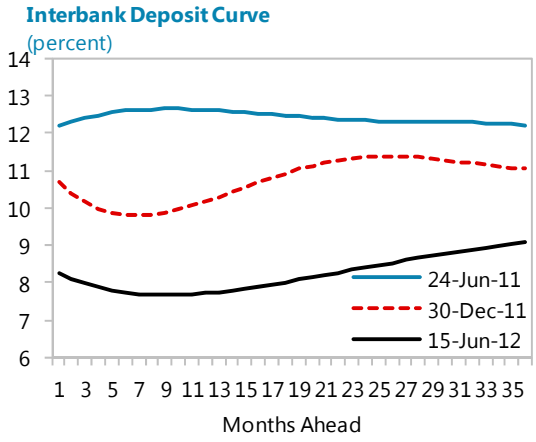
... while fiscal policy remains tight.



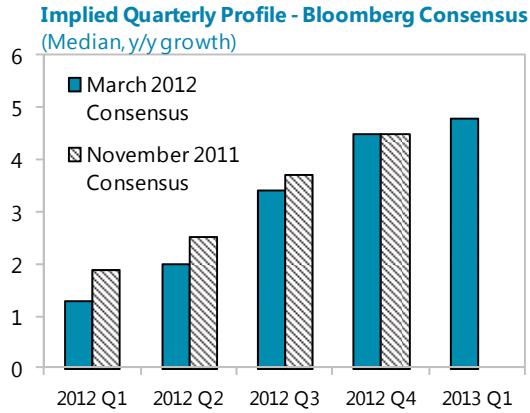
Intervention has dropped sharply.



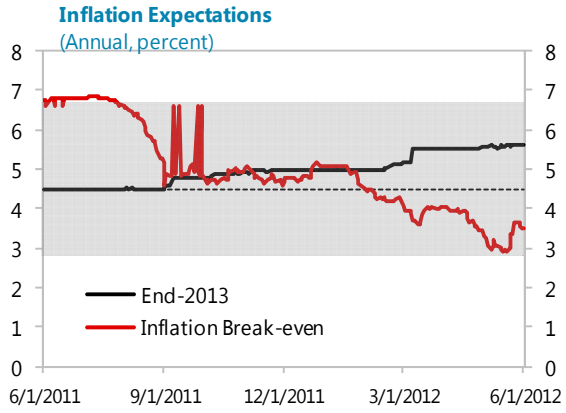
The swap curve is pricing in further monetary policy easing.



While analysts expect a sharp recovery in activity in 2012 H2 ...



... Medium term inflation expectations have worsened, though breakevens have improved.



Sources: Bloomberg; Central Bank of Brazil; Ministry of Finance of Brazil

1/ Fiscal stimulus indicates the deterioration of NFPS primary balance and BNDES new lending (in percent of GDP). Positive values indicate stimulus.

formulation in the current context arose from two factors: uncertainties over the baseline external outlook, and structural shifts in key macro parameters in Brazil. On the latter, they considered that the real neutral interest rate in Brazil had been declining in the last years and considered that rates could fall to a lower level in the current cycle.[4]

19. ***The discussion emphasized the timing of when to start unwinding stimulus***. Under the staff's baseline scenario, monetary settings are now more than sufficiently supportive. The key issue to keep under review will be the timing of the start of the normalization cycle to support the convergence of inflation back to target through 2013–14. In the absence of a large adverse external shock and given the rise in inflation expectations, the staff argued that the authorities should stand ready to unwind some monetary stimulus through 2013 and before the end of this year if needed to keep inflation on target during 2013–14. The staff recognized that the neutral policy rate has likely been shifting down through time but noted there remains considerable uncertainty with regards to its level (See Annex IV). The authorities stressed that they were committed to meeting the inflation target over the relevant horizon and would take action as appropriate.

20. ***Staff noted that while fiscal policy implementation had been strong, some risks could arise in the constrained budgetary environment.*** There was agreement that the authorities had sent a strong signal of commitment to their fiscal strategy by adhering to the full unadjusted primary balance target of 3.1 percent of GDP last year. Nonetheless, spending pressures linked to the large minimum wage increase this year and some moderation in tax revenues (particularly corporate taxes), including from stimulus measures, could put pressure on budget implementation.[5] This arises in part because with Brazil's highly rigid spending structure—with over 80 percent of spending pre-committed—finding spending cuts to adhere to the fiscal target is complex (as shown in Annex V). As such, keeping the fiscal program on track may require increased resort to extraordinary revenues or other one-offs. The authorities stressed that they always follow a cautious approach in managing the execution of budget spending and stressed their commitment to meeting the full unadjusted primary target.[6] Moreover, they noted that exceptional revenues generally reflected investment income from public sector corporations and management of government assets and that so-called one-off revenues had in practice turned out to be quite stable.

21. ***There was a consensus that Brazil was well-placed to deal with downside risks***. International reserves are now US$370 billion, compared to US$200 billion in mid-2008. Liquidity buffers at commercial banks have likewise increased and currently stand at some 10 percent of GDP.

[4] As indicated in past consultations, the authorities have had a somewhat different assessment of potential growth than staff (4½–5½ vs. 3¾–4¼ percent). However, there was agreement that the long-lasting effects of the crisis may act to pull potential growth in Brazil—as in other countries—somewhat lower than previously considered, though further analysis will be needed.

[5] Increases in the minimum wage are reflected in the minimum pensions and other social benefits, with an estimated fiscal cost of ½ percent of GDP in 2012.

[6] The Ministry of Finance retains very strong discretionary control of the budget execution and also has space under law to deviate from earmarks within specific limits.

Also, the complex corporate f/x derivatives that played a large role in undermining confidence in key emerging markets in 2008 are no longer in use while corporate external leverage—both in aggregate and across firms—remains low, notwithstanding the increased issuance in the last year. Nonetheless, it was agreed that growth is weaker (running now at an annual rate of about 1 percent compared to 4½ percent in early 2008). Furthermore, the staff noted that public sector bank balance sheets have already been expanded substantially since 2008 which could constrain their capacity to act as counter-cyclical tools. The authorities emphasized that public banks were prudently managed and had sufficient depth to again step in and play a counter-cyclical role if needed.

22. ***The authorities agreed that the flexible exchange rate and liquidity provision would be the first policy tools deployed in the event of shocks.*** Substantial experience had been gained during 2008-09 in setting up f/x and local currency liquidity facilities to address strains in specific sectors, including related to trade finance. These mechanisms were now easy/quick to activate and well understood by market participants. There was agreement that were a shock similar in magnitude to that in 2008 to arise, monetary policy could now respond aggressively with the recent removal of the implicit floor on the policy rate.[7] In the event, staff also view that there is sufficient space for fiscal policy to be eased should an external shock lead to a large adverse impact on domestic output (indeed, current public debt levels remain broadly in line with pre-Lehman ones, in stark contrast to much of the rest of the world). The staff cautioned against excess efforts to stimulate demand before such an external shock materializes, including through using an overly wide range of instruments and ad hoc fiscal incentives that could increase distortions and undermine the business environment and investment. The authorities reaffirmed their intent to rely on monetary policy as the main counter-cyclical tool in the event of downside risks.

B. How can rebalancing support external stability and sustained growth?

23. ***Brazil has a relatively low rate of saving and investment by comparison with peers*** (Figure 4). Household saving is especially modest, in part reflecting a generous pension system.[8] Investment levels are also low in comparison to other G-20 emerging markets (including ex-China), given structurally high real interest rates, burdensome taxation, and infrastructure gaps. Moreover, a key feature of the Brazilian economy is the constrained level of savings and investment by the public sector in comparison to global peers. While both savings and investment have increased in the last years, levels remain modest and the current account deficit has widened despite Brazil's large resource exports. The counterpoint to this pattern of growth has been that the share of consumption in income in Brazil has risen far more than in most global peers in the last decade.

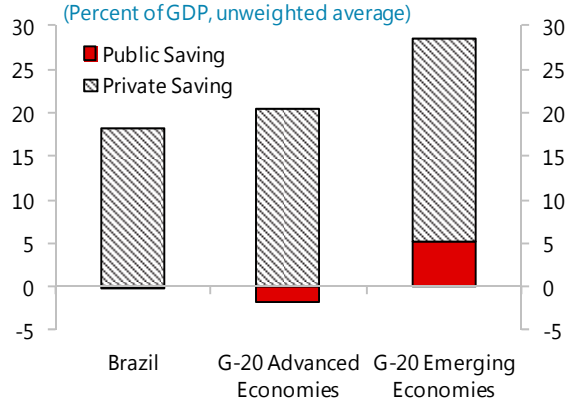
[7] Previously, savings deposits offered a minimum guaranteed return roughly equivalent to about 8½ percent. In such a situation, were the SELIC rate to drop below that level, money market investors would have had incentives to shift funds from money/short-term debt instruments into savings deposits, potentially disrupting the former. In early May, government effectively removed this floor for new depositors.

[8] Brazil is unique in having only 10 percent of the population over the age of 65, but spending about 9 percent of GDP on pensions. See Chapter I of the Selected Issues Paper (www.imf.org) for an international comparison.

Figure 4. Brazil: External Stability

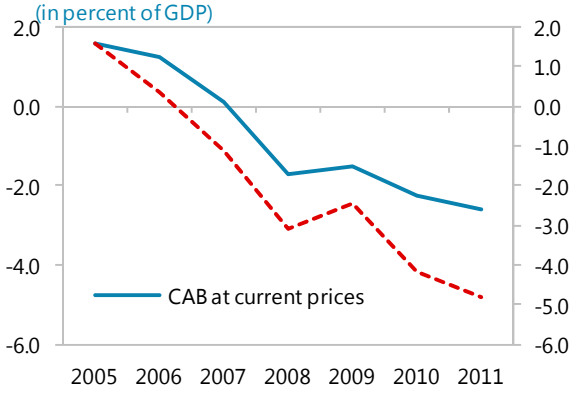
The current account deficit reflects in part the low savings rate in Brazil.

Brazil and the G-20: Saving, 2007 - 2011
(Percent of GDP, unweighted average)



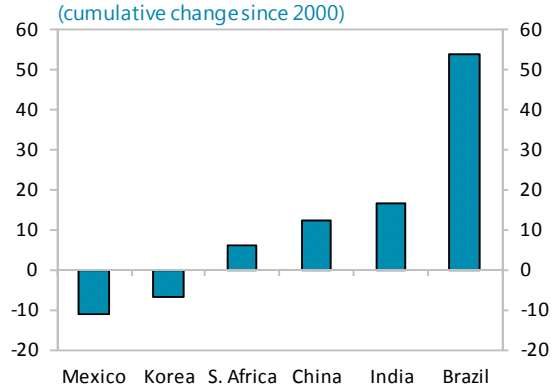
Booming commodity price have helped to contain the current account deficit.

Current Account Balance at 2005 Prices
(in percent of GDP)



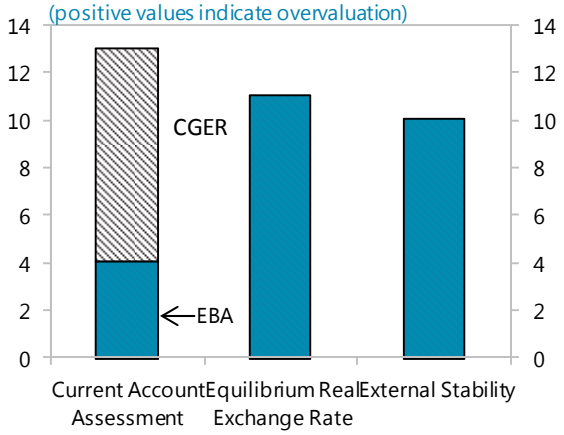
The real exchange rate has appreciated substantially, including compared to other emerging markets …

Real Exchange Rate
(cumulative change since 2000)



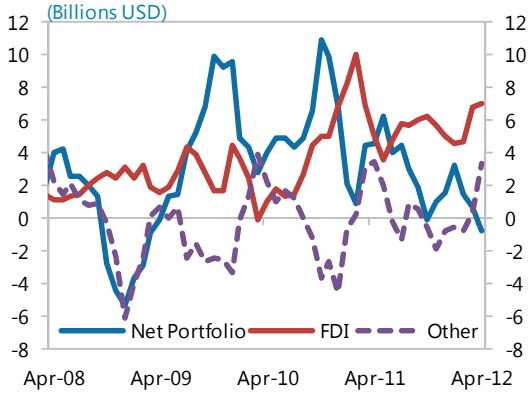
… and is judged to be somewhat overvalued at current levels.

Real Exchange Rate Gap
(positive values indicate overvaluation)



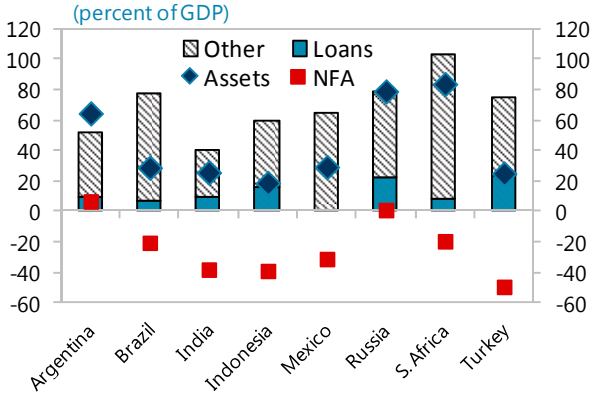
Strong capital flows have been managed with policy adjustments and CFMs that have changed the composition of flows.

Capital Flows
(Billions USD)



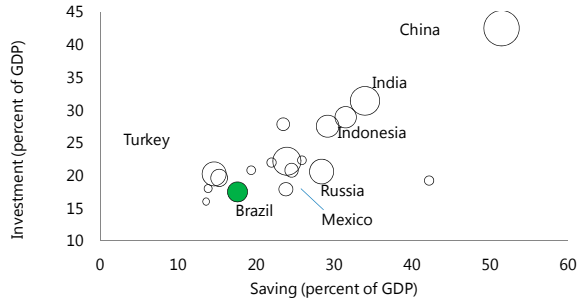
Brazil's international investment position is bolstered by low levels of external debt.

International Investment Position, 2010
(percent of GDP)

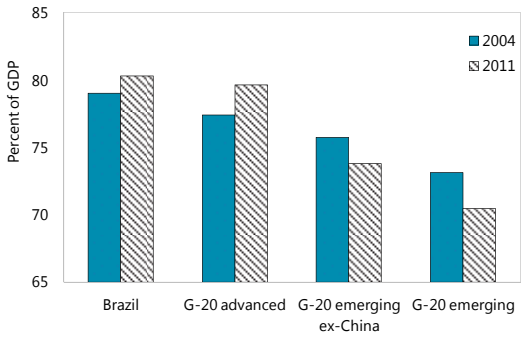


Sources: IMF International Investment Position; Central Bank of Brazil; World Economic Outlook and IMF staff calculations.

G-20 Saving, Invesment, and Growth, 2004-11 1/



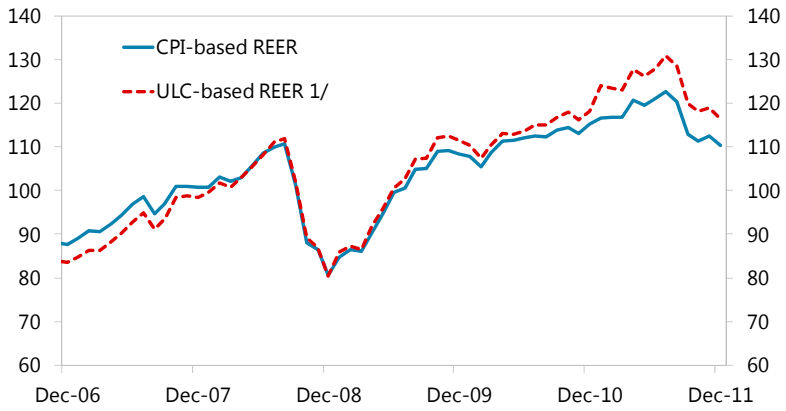
G-20 Consumption as Percent of GDP, 2004-11



Source: IMF WEO; Staff estimates.
1/ Average since 2004. Size of bubbles reflects real per capita GDP growth.

24. ***The staff noted that these domestic imbalances have contributed to exchange rate strength.*** The current account deficit (2.1 percent of GDP last year and 1¾ percent of GDP on a cyclically adjusted basis) is larger than a range of estimates for a current account consistent with fundamentals and desirable policies for Brazil (about ½–1 percent of GDP), largely reflecting shortfalls in private savings.[9] As such, the staff's assessment is that the real exchange rate is on the strong side at current levels (see Annex VI),[10] which remain some 60 percent more appreciated than those in 2004. Similar results are obtained from equilibrium exchange rate models. The staff has also constructed measures of the real exchange rate for Brazil deflated by relative manufacturing unit labor costs which suggest a level that is currently about 10 percent more appreciated than relative price based measures. Indeed, staff analysis suggests that rising relative ULCs for Brazil, coupled with the lagged effects of the post-Lehman nominal appreciation, have dented industrial production in the last couple of years (see Appendix).

Brazil: ULC- and CPI-based Real Effective Exchange Rates, 2006-2011
(Index, average 2008=100)



Sources: INS; and IMF staff estimates
1/ Based on ULC in the manufacturing sector of Brazil's main trade partners, as provided by the OECD .

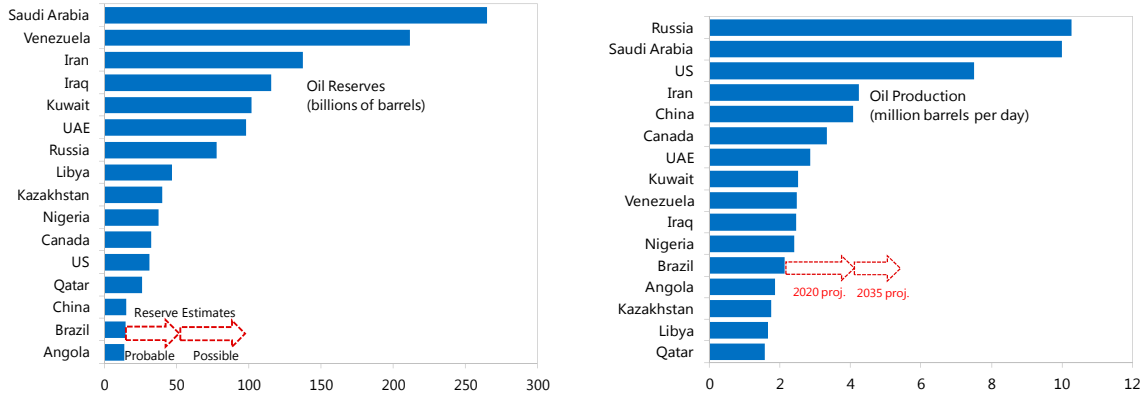
[9] These norms are derived from cross-country regressions explaining current accounts as a function of various fundamentals and controlling for relative cyclical effects (from the CGER and EBA) and also including adjustments for appropriate relative policies (from the EBA).

[10] The impact of resources on the current account raises uncertainties over the assessment. On the one hand the current account deficit at 2005 commodity prices was 4½ percent of GDP in 2011. But Brazil is expected to become a major oil producer based on the offshore pre-sal finds. At this stage net oil exports are projected to rise to 1 percent of GDP in the longer term. However, these could prove to be larger (Box 1).

Box 1. Brazil: Oil Sector Developments and Prospects[1]

In the next decade Brazil is set to become one of the world's major oil economies. With current oil production at 2 million barrels per day (mbbl/d), the country falls a little short of balancing its oil exports and imports, and ranks 15th in the world in terms of its proven oil reserves (15 billion barrels). However, the discovery in 2007 of the offshore "pre-sal" oilfields (the most significant recent global oil field discovery) is estimated to add from 50 to 100 billion barrels to Brazil's probable and potential reserves and help boost oil production by almost 3 mbbl/d by 2020, making Brazil one of the top-five oil economies in the world. Brazil's national oil company, Petrobras, is already producing more than 100 thousand barrels per day from the pre-sal oilfields.

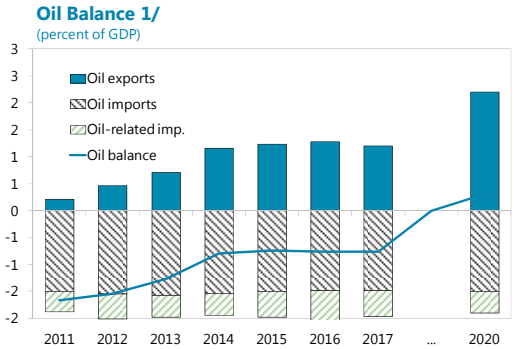
Brazil: Oil Production and Reserves



Source: BP, Petrobras and IMF staff calculations

To be a major oil producer the country has to overcome considerable challenges related to the technological complexity of pre-sal development and exploration, high investment needs, and capacity constraints that partially reflect strict local-content rules. Development of pre-sal reserves will require utilization of cutting edge technologies related to drilling, extracting, and transporting oil and gas that lie up to 300km offshore, beneath up to 5 km of salt and rock. While Petrobras already has extensive experience with offshore oil fields—accounting for more than 20 percent of the world's deepwater production—developing pre-sal is no small challenge. The company plans to invest more than US$220 billion over the next 5 years—almost 10 percent of GDP—to develop the fields and build onshore downstream facilities. In addition, relatively high local-content requirements for pre-sal projects—that are currently at about 50–60 percent of total costs and set to increase to 90 percent over the medium term as a local industry adapts—may create near-term production bottlenecks, particularly given the ambitious production targets.

Forthcoming oil export receipts will gradually improve Brazil's external balance. While at present the development of the pre-sal fields generates negative net current account flows reflecting high capital import needs, increasing oil exports are projected to improve the current account balance by almost 2 percent of GDP over the next decade.



1/ Does not include flows related to oil services(i.e. leasing drilling equipment and floating production storage facilities).

Box 1. Brazil: Oil Sector Developments and Prospects (Concluded)

Large petroleum reserves create new opportunities and challenges. The Brazilian government recently introduced regulatory changes aimed to increase its share of pre-sal revenues and mitigate investor's risks related to exploration by commencing production sharing agreements for future pre-sal fields and raising royalties (from 5 percent to 10+ percent for certain high yielding fields). The exact distribution of oil revenues among federal government, states, and municipalities is still under review. Prudent use of oil receipts could be a crucial element to increase the country's low savings rate, develop domestic value added industry and services to support the oil sector, and address infrastructure and socials needs. The government plans to invest part of oil revenues in education, science, and research, which in principle should help raise productivity in the non-oil sectors and mitigate potential Dutch disease type effects on competiveness.

Sources: Brazilian National Petroleum Agency, British Petroleum, Petrobras, U.S. Energy Inf. Admin., and staff estimates.

[1] Prepared by Anna Ter-Martirosyan.

25. ***The authorities agreed that the currency remained on the strong side, notwithstanding the recent depreciation, but stressed the role of global push factors.*** The authorities and staff concurred that capital flows averaging 4 percent of GDP in the last 3 years have exacerbated exchange rate pressures. However, the authorities emphasized the importance of global push factors, including ultra-easy monetary policy in major reserve currency areas. They felt that the appreciation of the nominal exchange rate during 2009–11H1 has likely contributed to the disappointing performance of the manufacturing sector in Brazil following the post-Lehman bounce-back, including by association with a surge of manufactured imports. Indeed, they argued that the role of relative labor costs may be less important given that manufacturing in Brazil had grown more capital intensive in recent years. Reflecting the ongoing pressures, some measures have been introduced in the past year to support industry, including increased taxes on imports and renegotiation of trade arrangements for vehicles. The authorities noted that they were taking steps in line with their regional trade agreements to maintain a balanced pattern of trade, while also ensuring that these adhered to their multilateral commitments. On the current account assessment, they noted that the current account deficit in Brazil since 1970 had averaged about 2 percent of GDP, close to that for 2011. Moreover, they suggested that had Brazil not experienced large terms of trade gains and associated wealth effects in the second half of the 2000's, the non-commodity trade balance would have been stronger.

26. ***Higher saving would help lower interest rates and the exchange rate, boosting growth over the medium term***. The staff recognized that increasing domestic saving is complex and likely to take time. The recent reforms of the public pension system mark a modest yet important initial step in the process of lowering its long-term funding gap.[11] Simulations prepared by staff point also to some gains on private savings from this reform and show that for the same fiscal savings, alternative reforms can have very different macroeconomic effects (see Box 2).

[11] The reform shaves off about ½ percentage point of GDP from the about 7 percentage point of GDP long-term deterioration in the deficit of the social security system that was projected before the reform.

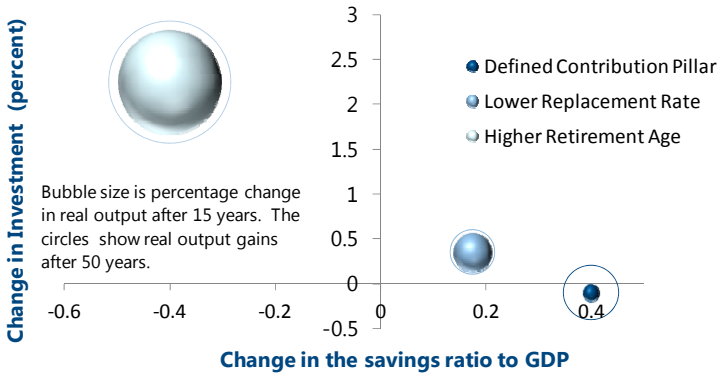
Box 2. Brazil: Public Pension Reform—What Impact on Savings Rates and Growth?[1]

Aggregate savings in Brazil are constrained by the generous public pension system. Not only does the overall deficit of pension system reduce government savings (social security deficit was 2.3 percent of GDP in 2011), the very high replacement rates it offers (close to or above 80 percent) reduces incentives for households' savings.

The recent introduction of a defined contribution pillar for public sector workers will encourage higher private savings. The reform caps the defined benefits accrued by future federal government employees (and accordingly limits social security contributions). Both the expectation of lower transfers during retirement and the lower contribution rate—higher disposable income—enhance incentives to save and increase labor supply.

Reforms that generate the same fiscal savings can have very different effects on macro variables. Simulations using the Fund's Global Integrated Monetary and Fiscal model (GIMF) show that for equivalent long term fiscal savings, the largest impact on private savings would come from introduction of a defined contribution pillar. Raising Brazil's low retirement age (under 60 on average) would tend to reduce savings (given higher lifetime earnings and shorter retirement period) but have larger positive effects on growth given increased labor supply. Lowering replacement rates would have more intermediate effects. Nonetheless, it is worth noting that the growth impacts vary substantially depending on the horizon considered as also illustrated in the Figure below.

Macroeconomic Impact of Different Pension Reforms 1/



1/ Estimates based on GIMF simulations (see Chapter I of the Selected Issues Paper (www.imf.org) for details). The chart shows the differential impact on macro variables over 15 years of reforms that yield equivalent reductions (of 1 percent of GDP) in the deficit of the pension system in the long run.

Additional measures to encourage long term savings can also be considered. Tax measures to incentivize savings are frequently considered, though the empirical analysis of their effectiveness is mixed. On the one hand, marginal propensities to save seem to respond little to changes in interest rates and when there is a response (among higher income earners) it consists often in a composition (portfolio) effect.[2] On the other hand, policies that address pervasive behavioral distortions, such as habit persistence or myopia have had more success. Indeed mandatory retirement saving schemes have been a first line option (with empirically higher effects among middle to low income households), but choice engineering—automatic enrollment in savings schemes with a well designed 'default' option, or financial education—can also be effective. Finally, while financial development reduces borrowing constraints, it expands the set of savings instruments available to households and corporates (in terms of return, maturity and hedging opportunities) and can thus have a positive impact on savings in the long run.

[1] Prepared by Joana Pereira.

[2] See Loayza, Schmidt-Hebbel, and Serven (2000), IFS (2012).

27. ***Indeed, reducing high benefit levels would boost saving and tend to lower Brazil's structurally high interest rates, further reducing capital flow pressures.*** The authorities recognized these benefits, but stressed the important role of the pension system in redistributing income and providing a social safety net for the poorest. Moreover, they noted that boosting consumption and living standards for poorer groups had been a singular achievement in Brazil. Looking ahead, they suggested that as financial deepening continued to gain traction in Brazil, this could support increased saving by broadening savings options for households.

28. ***The authorities noted that efforts to boost overall investment were generating results and stressed the importance they placed on maintaining social spending.*** They highlighted gains made through the Growth Acceleration Program (PAC) which have contributed to raising public investment from 2 percent of GDP in 2006 to 2½ percent of GDP in 2011, while also boosting private investment. They added that a large share of investment in Brazil was carried out by large publically owned companies (e.g. Petrobras has an investment program of some 10 percent of GDP over the next 5 years) and that a key priority now was to improve the execution of investment projects at the federal level. Government has also sought to use concessions to move key infrastructure projects forward. Funding for many of these investments was being provided by the national development bank BNDES. The staff welcomed efforts to boost investment, including leveraging savings and expertise from the private sector. However, it stressed that to maximize beneficial macroeconomic effects, it was crucial that additional investment be financed out of higher public saving. Indeed, research by staff for the consultation looking at the impact of fiscal policy on the real exchange rate in emerging markets flags the positive role that can be played by higher public investment financed out of saving, supporting competitiveness and growth.[12] Staff emphasized the need for freeing up space on budget within the constraint of primary fiscal target, preferably by containing the growth of non-core consumption spending. The staff noted that this was an additional powerful motivation for seeking to reduce spending rigidities, including by exploring options for de-linking pension adjustments from the minimum wage.

29. ***Tax reform could also contribute to increasing competitiveness***. Brazil's tax system is particularly burdensome due to its complexity, fragmentation and changing provisions which increase the cost of doing business. Indeed, the authorities have identified tax reform as one of their main priorities with the objective of simplifying the system and eliminating distortions. Staff concurred with the authorities that the approval of legislation to reduce the states' VAT rates (ICMS) for imported goods and the decision to make tax breaks conditional on unanimity among states are important steps in this direction and should help reduce tax competition. Plans for a broader reform of the state VAT (ICMS) system—which will result in the unification of rates—are also under discussion. As some states may lose revenue, several incentives are being explored to facilitate the transition but authorities stressed their commitment to preserving the strength of the fiscal framework. Proposals for the simplification of cascading taxes such as the funding for social security

[12] See Chapter II of the accompanying Selected Issues Papers (www.imf.org) on "Real Exchange Rate Appreciation: Can Fiscal Policy Help?"

(COFINS) and the funding for retirement pensions (PIS) are also under study. In the past, the staff has noted that options could include merging these taxes into a single VAT-like consumption tax and reforming or eliminating most tax exemptions.

30. ***The authorities and staff agreed there is scope for capital market reform to support rebalancing.*** Financial instruments in Brazil—especially for private agents—remain overwhelmingly short term in nature, linked in most cases to the overnight rate. Measures to develop the longer end of the yield curve could boost saving and should facilitate longer term investments. The authorities stressed that towards this end they were seeking to increase the share of fixed rate bonds in total public debt issuance. Other steps are being taken to improve secondary market liquidity, build a solid benchmark yield curve and extend the average maturity of the debt. Initial steps are also being taken to standardize issuance terms for new private bonds. There is also substantial scope to leverage the expertise of BNDES to support capital market development in Brazil (see the accompanying FSSA (www.imf.org)).

31. ***In the transition, intervention and CFMs can help manage cyclical capital flow pressures.*** While the flexible exchange rate has borne the brunt of past capital flow pressures, the authorities have appropriately adjusted macro policies and accumulated reserves. Intervention has been focused on avoiding extreme volatility in the exchange rate. Staff noted that reserves were now at the top end of a range of adequacy metrics and that sterilization was particularly costly in Brazil. The authorities considered that given continued elevated global risks, there remained a premium for some further reserve accumulation. Capital flow management measures have also been introduced in past periods of pressure and have had some effect on containing exchange rate strength (portfolio debt flows have been much reduced) albeit the impact of specific measures on the exchange rate per se has tended to attenuate over time. The authorities emphasized that they view these measures as being used temporarily in managing cyclical capital flow pressures. Indeed, they noted that in practice, implementation of the framework has been countercyclical—when flow pressures have diminished or reversed, the framework has been eased.[13] Furthermore, measures have been used to also ward off stability risks.[14] All told, the authorities viewed that they have sought, with some success, to steer flows away from shorter-term and carry-related activities, to more stable, investment-related funding.

C. What are the risks to financial stability from rapid credit growth?

32. ***The authorities welcomed the recognition in the Financial Sector Assessment Program Update (FSAP) of the strength of financial sector regulation and supervision in Brazil***. On banking, the risk-based supervisory process is intrusive and there is a remarkably high degree of compliance with the Basel Core Principles. On capital markets, transparency and disclosure

[13] As for example in September 2011 when the IOF on equity transactions was lowered from 2 to 0 percent as capital flows diminished and the exchange rate depreciated rapidly.

[14] For example when shorter maturity lending picked up again at the start of 2012, durations limits for exemption from the IOF were extended from two to five years. This measure has subsequently been reversed.

standards have been raised. On insurance and pensions, the operational independence of supervisors needs to be strengthened. Common challenges for all supervisors are coping with constraints on budgets and human resources, and ensuring adequate legal protection. As the financial system becomes more complex, coordination among the various supervisory bodies will become increasingly important. A summary of specific policy recommendations made in the FSAP–Update is presented in Box 3 while additional details are in the accompanying FSSA.

33. ***There was agreement also that the banking system was in aggregate well-positioned to absorb even large shocks*** (Figure 5). FSAP stress tests show that the system is very well placed to deal with very severe shocks. In a scenario where growth is a cumulative 12 percentage points below baseline in 2012–13, among other factors, and with conservative assumptions about the level of true economic capital available, most banks need no further capital. The authorities noted that they intend to move ahead with early implementation of countercyclical capital charges under Basel III. Replacement of deferred tax assets, which are an important part of the capital base for some banks, will be phased in under the Basel III timetable. The authorities expect banks to be able to generate sufficient internal capital to manage this transition.

34. ***Liquidity risks are also manageable.*** Banks hold over 10 percent of GDP in required reserves at the central bank and about 13 percent of their assets are government bonds. As such, liquidity and market stress tests run by the FSAP find the system again well-positioned. However as well known, small and medium banks remain vulnerable given their dependence on wholesale funding. The authorities have taken some steps to begin consolidation. Moreover larger banks are allowed to discount from their required reserves, credit portfolios they purchase from smaller bank. While this creates an incentive to maintain funding for smaller banks, the staff expressed concern that in steady state this arrangement could introduce distortions in the reserve requirement framework. The authorities noted that they are seeking durable solutions, including in the form of having consolidated issuances of debt by smaller banks to create scale in this market and relieve their funding constraints.

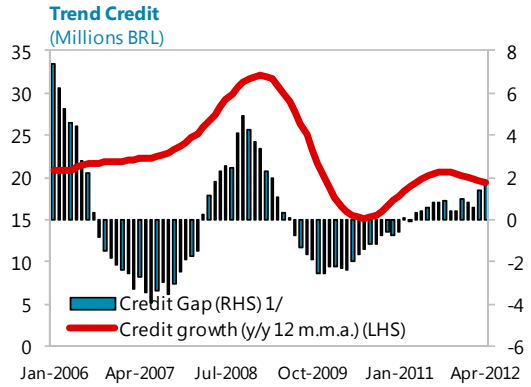
35. ***Staff highlighted that rapid trend credit growth bore close monitoring, while noting that aggregate debt levels remain low and the credit gap is closing.*** The credit-to-GDP ratio in Brazil has risen from 26 percent in 2004 to 49 percent in 2011. The staff noted that credit booms of this duration and magnitude have been associated with risks to stability in cross-country studies (see Annex VII).[15] Nonetheless, there was agreement echoed by the FSAP-Update, that a significant portion of this increase likely reflects financial deepening. With the gains on income and inclusion post-2003, new borrowers have obtained access to finance. Legal reforms have substantially strengthened creditor rights. Moreover, the overall level of financial development remains low by international standards, a factor that lowers stability risks. In the current cycle, the credit gap has also started to shrink.[16] Furthermore, the large buffers in the system remain a major mitigant of systemic risk as discussed in the previous paragraph.

[15] See Dell'Ariccia et al, *Policies for Macrofinancial Stability: How to Deal with Credit Booms* (2012).

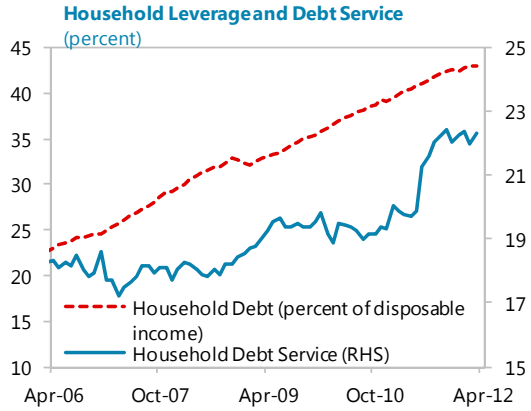
[16] The credit gap is the difference between the current level of aggregate credit and its trend value.

Figure 5. Brazil: Financial Stability

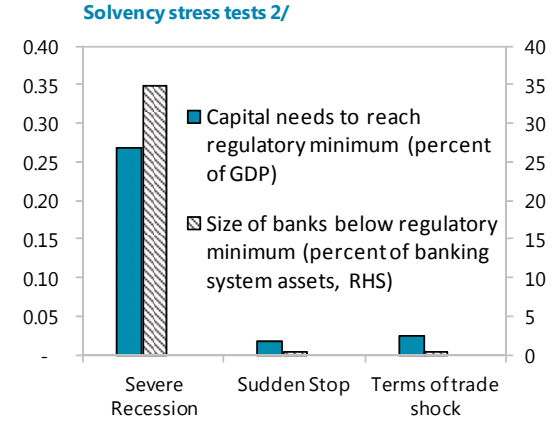
The credit gap is closing, albeit the underlying trend growth has been high.



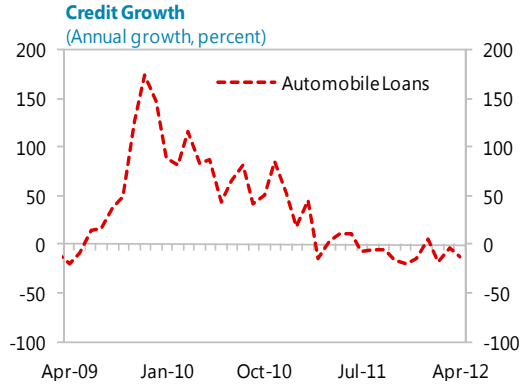
However, rising household leverage and debt service are a concern ...



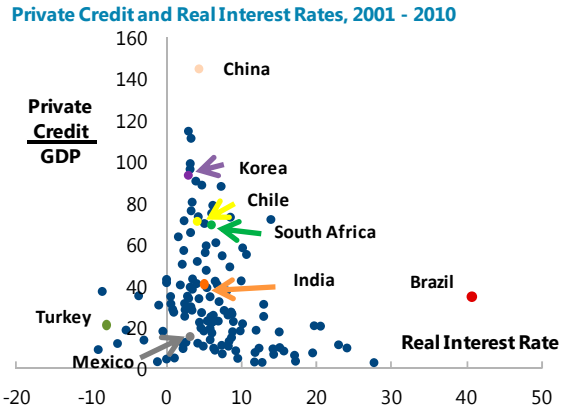
However, banks have strong buffers and stress tests suggest most would manage even extreme shocks.



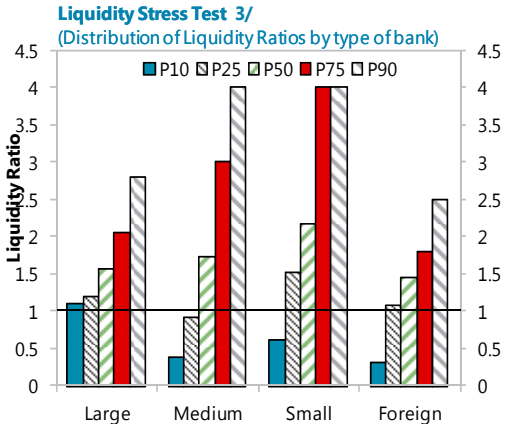
Macroprudential measures have had some impact on curbing lending growth in particularly frothy segments.



... Especially given very high lending rates in Brazil.



While liquidity shocks are also manageable, though small and medium sized banks remain a concern.



1/ Constructed by percent deviations from Hodrick-Prescott filtered credit series
2/ Chart displays solvency impact in 2013 for the severe recession, and impact in 2016 for the sudden stop and terms of trade shock, as these are the years when the shock has larger impact on capital.
3/ Banks are considered liquid if the ratio is above 1. P10, P25, etc. refer to percentiles.

Box 3. Brazil: Financial System Assessment—Achievements and Challenges[1]

Brazil's financial system has grown in size and sophistication and strengthened its resilience to shocks. Over the past decade, financial assets doubled to 180 percent of GDP, of which, more than half are held by depository institutions. Financial deepening has taken place hand in hand with economic growth and greater financial inclusion. Meanwhile, the supervisory and regulatory frameworks for banking, capital markets and insurance have been substantially strengthened. Profitability has been consistently high, solvency ratios are strong, exposure to cross-border and foreign exchange risk is limited, and liquidity ratios are favorable.

These strengths notwithstanding, some challenges remain to be addressed. As the system grows in size and sophistication, strengthening the effectiveness of the crisis resolution framework and coordination among the various supervisory agents is becoming increasingly important. Moreover, rapid credit growth has created some vulnerabilities, notably with respect to indebted households and rapidly rising housing prices in prime locations.

A summary of the key FSAP recommendations to address these challenges includes (see the Brazil FSSA (www.imf.org) for more details):

Financial Stability

- Establishing a multipartite high-level committee including all financial regulators with an explicit mandate for financial stability and crisis coordination.
- Issuing a regulation on credit bureaus to ensure broad availability of information on borrowers with good payment history.
- Publication of a national housing price index based on purchases.

Safety Nets and Crisis management

- Improving the operational procedures and systems for providing emergency liquidity assistance (ELA) by the central bank.
- Removing some legal impediments and strengthening the purchase and assumption and bridge bank statutes.
- Extending legal protection to all financial sector supervisory agencies, and elevating the threshold for actions against employees of these agencies, BCB-appointed directors, intervenors, or liquidators to gross negligence.
- Reinforcing procedures for the use of the deposit insurance fund (FGC) by establishing that the FGC provides funding beyond least cost assistance only to cases where there is a systemic threat and capped at 50 percent of FGC's cash resources. Securing adequate funding for the FGC in the event of a systemic crisis.

Capital Markets

- Extending tax incentives on infrastructure bonds to infrastructure funds.
- Refocusing BNDES operations towards facilitating long-term financing while disengaging gradually from low-risk commercial activities.
- Issuing stricter market-making rules with the aim of strengthening secondary market trading.

Insurance and Pensions

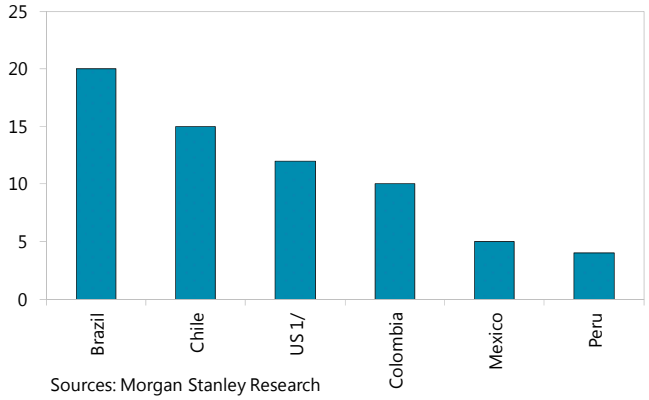
- Enhancing the operational autonomy and legal protection of insurance and pension supervisors.
- Implementing the required regulation for consolidated supervision.

[1] Prepared by Mercedes Garcia-Escribano.

36. ***The staff stressed that household credit risk and rising house prices are a concern.***

- Staff noted that household leverage, while still low by international standards, has risen rapidly, while debt service costs are high. NPLs started to increase in early 2011 despite strong employment and economic conditions. All these factors raise concerns about credit quality. The authorities agreed that rising household leverage and debt service needs were a matter for closer monitoring and analysis. They had therefore begun a process for substantially strengthening the collection of highly granular micro-level data on household credit risk to support the strong supervisory framework, and further improve the credit bureau framework.[17] They viewed that the consumer NPL ratio could be expected to fall in the second half of this year, reflecting the gradual digestion by the system of weaker credits extended at the height of the post-Lehman credit bounce-back in the second part of 2010.

Latin America: Consumer Debt Service, 2011
(in percent of disposable income)



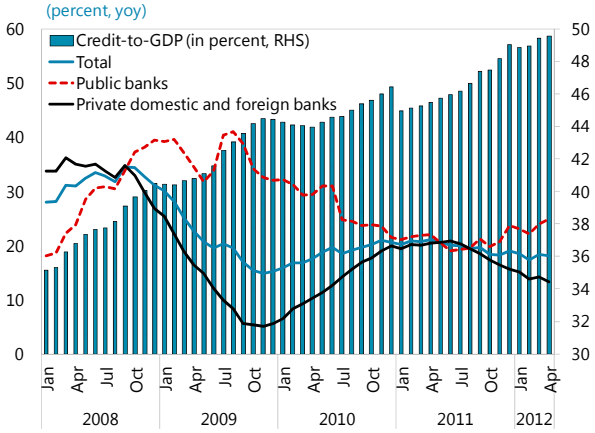
Sources: Morgan Stanley Research
1/ U.S. data is for 2010

- House prices in prime urban areas have more than doubled over the last 4–5 years, as has housing credit—albeit from a low level going from about 2 percent of GDP in 2006 to 4 percent of GDP last year. Much of this new lending is from the public housing bank, with a special emphasis on low-income borrowers. The staff urged the authorities to strengthen data on the housing sector, including on price statistics.

37. ***Staff discussed options for managing the credit cycle, stressing the need to avoid overly pro-cyclical lending by public banks.***

- **Public banks**. Though private bank credit has moderated in the current cycle, public banks have stepped in to maintain overall high lending growth. As the economy recovers, with low interest rates, private credit could rebound strongly. In this context, there is a risk of public credit becoming procyclical. The authorities

Brazil-Credit growth
(percent, yoy)



[17] A "positive" credit bureau has been established. Previously, credit bureaus in Brazil only contained information on borrowers who were behind on some debt payment. The positive bureaus will have information on credit profiles of all participating borrowers

noted that public banks were supervised and regulated in the same manner as private banks and were subject to the same prudential and capital requirements. They noted that private banks had cut back on lending in a pro-cyclical fashion reflecting legacy decisions from the 2010 boom and that public sector banks were taking advantage of opportunities they were presented with to gain some market share.

- **Macroprudential measures**. Macroprudential policies (MaPs) have been used to contain financial stability risks in certain market segments.[18] The authorities stressed that MaPs were aimed at stability considerations, leaving cyclical management to monetary policy. In this context, MaPs were viewed as being complements to monetary policy. Looking forward, staff noted that this would be an opportune time to introduce more broad-based measures to manage credit-cycle related stability risks. The authorities noted that they were considering advancing implementation of the counter-cyclical capital charge conceived under the Basel III agenda. There was agreement that critical details needed to be worked out, including on how to calibrate the charge and whether there should be different levels for different types and sizes of intermediaries. It was noted that this remains an open issue in the international debate on Basel III implementation, but the authorities stressed their commitment to advance here. Moreover, they noted that Brazil implements already a risk based provisioning framework which in many ways mimics a counter-cyclical capital regime.

38. ***Staff suggested that it would be opportune also to conduct a strategic review of the role and size of BNDES***. Brazil has traditionally had a major developmental role for public banks. However, BNDES's balance sheet has grown from 7½ percent of GDP in 2007 to 14 percent of GDP in 2011. The increase was due to its counter-cyclical lending role to avoid a credit crunch during the crisis. Staff suggested that going forward, consideration could be given for BNDES to gradually disengage from commercial activities (including its large lending to prime corporates who have access to other financing), and instead focus on developing a market for long-term finance. BNDES could seek to fund co-financing of infrastructure projects with the private sector, for example. The authorities noted that BNDES will remain a key factor in their development strategy. Plans were already underfoot to leverage BNDES expertise in capital market development while it was already expanding its role in funding long-term infrastructure and energy investments.

STAFF APPRAISAL

39. ***The staff welcomes the important shift in the policy mix that was announced last fall***. The commitment to maintain the 3.1 percent of GDP primary surplus target during 2012–13 and letting monetary policy act as the main countercyclical tool is well geared to support demand and

[18] Targeted MaPs were introduced in late 2010 in auto, credit card, and personal loans. A key feature included raising capital requirements for longer duration lending. For example, 7 year auto loans were being extended for an asset that depreciates over 5 years. Moreover, with consumers more sensitive to changes in their monthly payments, it was important to contain an expansion of duration overall to increase the transmission of tighter monetary policy (else banks were increasing duration, with unchanged monthly payments, in response to their higher cost of funds).

external stability. From a macroeconomic perspective, fiscal policy should focus on increasing saving over the medium term and bringing gross debt down through the cycle. This will further highlight the relatively strong fiscal position of Brazil. Monetary policy can react nimbly and powerfully to shocks to support the level of demand.

40. ***Monetary policy has been appropriately eased and current settings are very supportive***. Under the staff's baseline scenario, policy rates around current levels are sufficient to support a robust cyclical recovery starting in the second half of 2012. The key issue to keep under review will be the pace and timing of the start of the normalization cycle to facilitate inflation convergence back to target during 2013. In the absence of an adverse external shock, and given the rise in inflation expectations and the hard won disinflation gains of the past decade, the staff believes that the authorities should stand ready to unwind monetary stimulus through 2013 and before the end of this year if needed. Nonetheless, the staff recognizes that real interest rates may stabilize at a somewhat lower level than in past cycles.

41. ***The established fiscal target is welcome and meeting it is important***. The delivery of the full unadjusted fiscal target in 2011 has sent an important signal of the authorities' commitment to their policy strategy. Looking ahead to 2012–13, Brazil's relatively low saving, and the need to continue to build policy buffers, raise the stakes for adhering to the full unadjusted primary surplus target of 3.1 percent of GDP in this period. This will also help contain risks to the external current account that could arise, including were commodity prices to fall from current levels. Containing primary current spending growth would also be important to create space for higher investment.

42. ***The flexible exchange rate and central bank liquidity provision should remain the natural first external shock absorbers***. The authorities have built sizable buffers in the shape of international reserves and liquid resources of banks. Should spillovers extend from the financial sector to the real economy, there remains substantial scope to ease monetary policy following the welcome removal of the floor on saving deposit interest rates. There is some room to ease fiscal policy settings were a severe demand shock and tightening of credit conditions in line with the experience during the Lehman crisis to arise. In the interim, staff would advise against the excessive use of a wide range of alternative policy tools, including use of ad hoc fiscal incentives that could be difficult to reverse and have unforeseen costs.

43. ***Brazil would be well served by rebalancing from consumption to investment and net exports to foster growth and external stability.*** The saving rate in Brazil is below that of most G-20 emerging economies, in part reflecting a generous pension system. Investment is also subdued in comparison to peers, given structurally high real interest rates, a complex tax system and infrastructure gaps. While both saving and investments have increased in the last years, levels remain low and the current account deficit has widened despite Brazil's large resource exports. Further, raising saving and investment are critical for supporting Brazil's competitiveness, especially in relation to its high saving peers. These are also needed to boost potential growth and labor productivity.

44. ***These domestic imbalances, along with strong capital inflows, have contributed to a misalignment of the exchange rate***. In particular, low domestic saving is associated with a relatively high level of the exchange rate. While the real exchange rate has depreciated from peak levels observed in mid-2011, it remains on the strong side reflecting continued imbalances. Moreover, relative unit labor costs for Brazil have increased by more than inflation differentials since mid-2009. Furthermore, strong capital flows have exacerbated exchange rate pressures. The staff's analysis suggests that combined with the appreciation of the nominal exchange rate during this period, rising relative labor costs may have contributed to the sluggish performance of industry in Brazil, highlighting the importance of measures to boost productivity.

45. ***Measures are needed to boost investment financed out of higher domestic saving.*** This could be achieved by addressing budget rigidities to create more space for public investment. Indeed, evidence from emerging economies flags the positive role that can be played by higher public investment financed out of savings for lowering the real exchange rate. Reforms in support of developing the longer end of the yield curve could facilitate long term investments. The staff welcomes steps to increase the average maturity of the public debt and promote the corporate bond market. BNDES could continue to play a major role in this process by focusing on developing a market for long-term finance and gradually disengaging from commercial activities, including lending to prime corporates who have access to other financing.

46. ***Staff welcomes the recent reforms of the tax and pension systems.*** Steps taken to improve the tax system will help improve competitiveness and lower distortions. Proposals for further reform of the states' VAT should ensure that compensatory measures for the states are revenue-neutral and do not compromise the integrity of the fiscal framework. Further simplification of the complex federal tax system would help reduce the cost of doing business. The recently approved public pension reform—while having a relatively small fiscal impact—is an important step towards increasing saving to finance investment.

47. ***Capital flow management measures (CFMs) have played a useful part in managing cyclical pressures in Brazil***. The authorities have used a combination of tools to cope with capital inflows, including allowing the flexible exchange rate to appreciate, intervention in the foreign exchange market, macroeconomic policies, and CFMs. The CFMs have also been applied appropriately in a countercyclical manner, being eased when capital flows have reversed. While capital flow pressures have diminished in the current "risk-off" environment, overall global financing conditions are likely to remain easy for some time. As such, CFMs will remain part of the tool-kit to manage any future strong capital flows, though as the economy rebalances and absorptive capacity increases there should be less need for such measures.

48. ***Brazil's financial sector regulation and supervision are strong***. This was a central conclusion of the recent Financial Sector Assessment Program Update (FSAP). In banking, the risk-based supervisory process is robust and with a high degree of compliance with the Basel Core Principles. Insurance and capital markets supervision has become more risk-based and compliance with international standards has improved in tandem. Challenges for the supervisory framework,

include coping with constraints on budget and human resources, ensuring adequate legal protection and enhancing the operational independence of insurance and pensions supervisors.

49. ***Large macro-financial linkages are contained by the strength of the system***. FSAP stress tests show that the banking system in general is very well placed to deal with even severe shocks. The planned early implementation of elements of Basel III is a testament to the strength of the system. The expectation is that banks should be able to generate sufficient internal capital to manage this transition. However, a close eye will need to be kept on bank profitability as spreads could be compressed going forward, reducing returns, while duration will likely increase, raising interest rate and liquidity risks.

50. ***The system is also well-placed to manage shocks to liquidity and market conditions***. Liquidity and market stress tests run by the FSAP find the system again well-positioned to manage strains, including those that could arise from tail risks such as in the Lehman episode. Some issues remain regarding the structure of funding in parts of the small and medium banking sector which the authorities are closely monitoring.

51. ***Credit has grown very fast in the last decade***. The credit-to-GDP ratio in Brazil has risen from 26 percent in 2004 to 49 percent in 2011. Credit booms of this duration and magnitude have been associated with risks to stability in cross-country studies. However, as noted by the FSAP, a significant portion of this increase in Brazil reflects financial deepening. With the gains on income and inclusion post-2003, new borrowers have obtained access to finance. Legal reforms have substantially strengthened creditor rights. Moreover, the overall level of financial development remains low by international standards, which is associated with lower stability risks.

52. ***Though the system is resilient, some pressure-points will bear close monitoring going forward***. First, household indebtedness has risen rapidly. Moreover, the aggregate debt service burden appears high relative to peers, and non-performing loans have increased in early 2011 despite strong employment conditions. Second, real estate price appreciation has been very rapid though housing credit is small in aggregate. The authorities are taking steps to strengthen monitoring in these areas with a view to better design potential policy responses. Progress towards implementing a positive credit bureau and the improvements to the central bank's credit information system are welcome. Addressing key information gaps regarding housing price indicators, such as publishing an index based on purchases and with broad geographic coverage, will also be helpful. Finally, it will be important to maintain close monitoring of the risk profile of public banks, which look set to expand credit at a sizeable rate going forward. Indeed, containing public bank credit is needed for the coherence of overall steps to manage credit growth as recovery takes hold.

53. ***Past steps taken to manage credit growth risks are welcome—a key issue going forward will be the design and introduction of broader based measures.*** The authorities have appropriately introduced various macroprudential measures to contain financial risks in specific sectors. They have made clear that MaPs are targeted at financial stability. The staff also welcomes the authorities' plans to bring forward the implementation of countercyclical capital buffers

envisaged under Basel III while recognizing that design and implementation issues will take further time to be worked out.

54. ***It is recommended that the next Article IV consultation takes place on the standard 12-month cycle.***

Table 1. Brazil: Selected Economic and Social Indicators

Key Social Indicators			
Area (thousands of sq. km)	8,512	Health	
Agricultural land (percent of land area)	31.2	Physician per 1000 people (2001)	2.1
		Hospital beds per 1000 people (2002	2.7
Population		Access to safe water (2007)	84.3
Total (million) (est., 2011)	194.9		
Annual rate of growth (percent, 2008)	0.9	Education	
Density (per sq. km.) (2010)	22.9	Adult illiteracy rate (2007)	10.0
Unemployment rate (average, 2011)	6.0	Net enrollment rates, percent in:	
		Primary education (2005)	94
Population characteristics (2008)		Secondary education (2004)	78
Life expectancy at birth (years)	72		
Infant mortality (per thousand live births)	24	Poverty rate (in percent, 2006)	19.3
Income distribution (2009)		GDP (2011)	R$4,143 billion
By highest 10 percent of households	42.5		US$2,493 billion
By lowest 20 percent of households	3.3		
Gini coefficient (2009)	0.54	GDP per capita (Est., 2011)	US$12,778

Main export products: Airplanes, metallurgical products, soybeans, automobiles, electronic products, iron ore, coffee, and oil.

	2007	2008	2009	2010	Est. 2011	Proj. 2012	Proj. 2013	Proj. 2017
	(Percentage change)							
National accounts and prices								
GDP at current prices	12.3	13.9	6.8	16.4	9.9	8.1	9.9	9.4
GDP at constant prices	6.1	5.2	-0.3	7.5	2.7	2.5	4.6	4.1
Consumption	5.9	5.1	4.1	6.3	3.6	2.2	4.0	3.6
Investment	11.4	11.3	-11.7	20.8	2.5	3.7	5.9	5.7
Consumer prices (IPCA, end of period)	4.5	5.9	4.3	5.9	6.5	4.8	5.0	4.5
	(In percent of GDP)							
Gross domestic investment	18.3	20.7	17.8	20.2	20.6	21.2	21.7	23.4
Private sector	16.6	18.5	15.7	17.9	18.4	18.8	19.3	20.7
Public sector	1.7	2.2	2.1	2.4	2.2	2.4	2.4	2.7
Gross national savings	18.4	19.0	16.3	18.0	18.5	18.6	18.7	20.1
Private sector	15.2	17.6	17.1	18.7	18.8	18.0	18.3	19.2
Public sector	3.3	1.4	-0.8	-0.6	-0.4	0.6	0.4	0.9
Public sector finances								
Central government primary balance 1/	2.2	2.8	1.3	1.8	2.2	2.2	2.2	2.2
NFPS Primary balance	3.5	4.1	2.2	2.5	3.1	3.1	3.2	3.1
NFPS Overall balance	-2.6	-1.3	-3.0	-2.7	-2.6	-1.9	-2.1	-1.9
NFPS Overall balance (including net policy lending)	-2.7	-2.3	-6.1	-5.7	-3.8	-3.1	-2.6	-1.9
Public sector net debt	45.1	38.0	41.5	39.1	36.4	34.6	32.5	27.5
NFPS gross debt	65.2	63.5	66.9	65.2	64.9	64.2	61.7	55.0
Of which: Foreign currency linked	5.1	5.5	4.0	3.3	3.0	3.0	3.0	3.0
	(Annual percentage change)							
Money and credit								
Base money 2/	21.8	-17.6	11.6	131.7	10.8	7.4	9.9	9.4
Broad money 3/	18.4	18.0	15.8	15.4	18.7	15.5	15.2	14.6
Bank loans to the private sector	28.9	28.3	13.3	22.9	20.2	18.1	16.4	15.1
	(In billions of U.S. dollars, unless otherwise specified)							
Balance of payments								
Trade balance	40.0	24.8	25.3	20.1	29.8	9.9	8.5	-3.0
Exports	160.6	197.9	153.0	201.9	256.0	260.0	273.7	338.0
Imports	-120.6	-173.1	-127.7	-181.8	-226.2	-250.1	-265.2	-341.0
Current account	1.6	-28.2	-24.3	-47.3	-52.5	-63.4	-75.9	-107.2
Capital account and financial account	89.1	29.3	71.3	99.6	109.4	91.7	96.7	122.2
Foreign direct investment (net)	27.5	24.6	36.0	36.9	76.0	55.6	53.2	62.8
Overall balance	87.5	3.0	46.7	48.8	55.7	28.3	20.8	15.0
Terms of trade (percentage change)	2.1	3.5	-3.2	17.0	7.8	-6.8	-1.9	-0.2
Merchandise exports (in US$, annual percentage change)	16.6	23.2	-22.7	32.0	26.8	1.6	5.3	6.9
Merchandise imports (in US$, annual percentage change)	32.0	43.5	-26.2	42.3	24.5	10.5	6.0	7.1
Total external debt (in percent of GDP)	14.1	12.0	12.2	12.0	12.0	13.5	14.4	15.1
Memorandum items:								
Current account (in percent of GDP)	0.1	-1.7	-1.5	-2.2	-2.1	-2.6	-3.0	-3.3
Gross official reserves	180.3	193.8	238.5	288.6	352.0	380.3	401.1	462.8
Real effective exchange rate (end of period; depreciation -)	15.2	-17.5	34.1	7.5	-4.4	...	...	...

1/ Includes the federal government, the central bank, and the social security system (INSS). Based on 2011 budget, recent annoucements by the authorities, and staff projections. Assumes no policy change.

2/ Currency issued plus required and free reserves on demand deposits held at the central bank.

3/ Base money plus demand, time and saving deposits.

Table 2. Brazil: Balance of Payments

(In billions of U.S. dollars, unless otherwise indicated)

	2008	2009	2010	2011	Proj. 2012	Proj. 2013	Proj. 2017
Current Account	-28.2	-24.3	-47.3	-52.5	-63.4	-75.9	-107.2
Trade balance	24.8	25.3	20.1	29.8	9.9	8.5	-3.0
Exports (fob)	197.9	153.0	201.9	256.0	260.0	273.7	338.0
Imports (fob)	-173.1	-127.7	-181.8	-226.2	-250.1	-265.2	-341.0
Nonfactor services, net	-16.7	-19.2	-30.8	-38.0	-41.3	-42.1	-48.4
Income, net	-40.6	-33.7	-39.5	-47.3	-35.0	-45.4	-58.9
Of which: Interest	-5.7	-7.8	-8.7	-7.9	-5.5	-0.2	-9.1
Profits and dividends	-33.9	-25.2	-30.4	-38.2	-28.4	-43.0	-48.5
Current transfers, net	4.2	3.3	2.9	3.0	3.0	3.0	3.2
Capital and Financial Account	29.3	71.3	99.6	109.4	91.7	96.7	122.2
Capital account	1.1	1.1	1.1	1.6	1.5	1.3	0.5
Financial account 1/	28.3	70.2	98.5	107.9	90.2	95.4	122.2
Medium- and long-term capital	36.9	96.5	111.5	135.7	104.4	107.6	130.8
Direct investment, net	24.6	36.0	36.9	76.0	55.6	53.2	62.8
Foreign	45.1	25.9	48.4	66.7	56.2	59.4	73.1
Brazilian	-20.5	10.1	-11.5	9.3	-0.5	-6.1	-10.4
Portfolio investment, net	3.5	50.5	56.4	31.2	14.4	19.3	26.5
Other investment, net	8.8	10.0	18.2	28.6	34.4	35.0	41.6
Commercial credit	0.5	-1.0	-0.5	-1.2	-1.0	-0.9	-0.4
Loans and other	8.3	7.1	18.7	29.8	35.4	36.0	42.0
Of which: Monetary authority	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Short-term capital	-8.6	-26.3	-13.0	-27.9	-14.1	-12.1	-9.1
Errors and Omissions	1.8	-0.3	-3.5	-1.3	0.0	0.0	0.0
Overall Balance	3.0	46.7	48.8	55.7	28.3	20.8	15.0
Memorandum Items							
Gross reserves (eop) 1/ 2/							
In billions of U.S. dollars	193.8	238.5	288.6	352.0	380.3	401.1	462.8
Net international reserves (eop) 1/ 2/							
In billions of U.S. dollars	193.8	238.5	288.6	352.0	380.3	401.1	461.8
In percent of short-term debt (residual maturity)	531.4	769.7	503.6	887.5	1,134.1	1,463.7	16,032.6
Current account (in percent of GDP)	-1.7	-1.5	-2.2	-2.1	-2.6	-3.0	-3.3
Trade balance (in percent of GDP)	1.5	1.6	0.9	1.2	0.4	0.3	-0.1
Merchandise exports (in percent of GDP)	12.0	9.4	9.4	10.3	10.7	10.8	10.3
Merchandise imports (in percent of GDP)	-10.5	-7.9	-8.5	-9.1	-10.3	-10.5	-10.4
Export volume (yoy change, in percent)	-2.5	-10.8	9.5	2.9	3.5	7.9	7.1
Import volume (yoy change, in percent)	17.6	-17.5	38.2	8.9	5.0	6.6	7.0
Export price index (yoy change, in percent)	26.3	-13.4	20.5	23.2	-1.8	-2.4	-0.2
Import price index (yoy change, in percent)	22.0	-10.5	3.0	14.3	5.3	-0.5	0.0
Terms of trade (yoy change, in percent)	3.5	-3.2	17.0	7.8	-6.8	-1.9	-0.2
Oil price (Brent blend; US$ per barrel)	97.0	61.8	79.0	104.0	101.8	94.2	87.6
Nominal exchange rate (R/US$, annual average)	1.84	2.00	1.76	1.66	...	...	...
REER (annual average in percent; appreciation +)	-17.5	34.1	7.5	-4.4	...	...	...
GDP in billions of U.S. dollars	1,650	1,622	2,143	2,493	2,438	2,523	3,279

Sources: Central Bank of Brazil, and IMF staff estimates and projections.

1/ Excludes intercompany debt under direct investment.
2/ Historical numbers include valuation changes.

Table 3: Main Fiscal Aggregates
(In percent of GDP, unless otherwise indicated)

	2008	2009	2010	2011	Proj. 2012	Proj. 2013	Proj. 2017
FEDERAL GOVERNMENT 1/							
Nonfinancial revenue 2/	**23.6**	**22.8**	**24.4**	**23.9**	**23.9**	**24.1**	**24.2**
Revenue administered by SRF	15.4	14.1	14.1	15.2	15.1	15.2	15.3
PIT	2.7	2.5	2.3	2.6	2.5	2.5	2.6
CIT	4.7	4.4	4.1	4.5	4.4	4.5	4.5
Indirect Taxes	7.2	6.3	6.7	6.9	7.0	7.0	7.0
Trade taxes	0.6	0.5	0.6	0.6	0.6	0.6	0.6
Other	0.2	0.4	0.4	0.5	0.5	0.5	0.6
Social security contributions	5.4	5.6	5.6	5.9	6.0	6.0	6.1
Other revenue	2.9	3.1	4.7	2.8	2.8	2.8	2.9
Total primary expenditure	**20.6**	**21.0**	**22.6**	**22.1**	**21.7**	**21.9**	**22.1**
Current expenditures	19.7	20.0	19.9	21.0	20.4	20.5	20.5
Personnel	4.3	4.7	4.4	4.3	4.2	4.2	4.1
Transfers	4.3	3.8	3.6	4.0	4.0	4.0	4.0
Pension benefits	6.6	6.9	6.8	6.8	7.0	7.0	6.9
Other	4.5	4.6	5.1	5.8	5.3	5.4	5.5
Capital expenditures	0.9	1.1	2.7	1.1	1.3	1.4	1.6
Primary balance	**2.8**	**1.3**	**1.8**	**2.2**	**2.2**	**2.2**	**2.2**
Borrowing requirement	1.0	0.6	0.8	0.7	1.0	1.0	1.0
STATES AND MUNICIPALITIES							
Nonfinancial revenue 2/	**11.8**	**11.3**	**11.4**	**11.6**	**11.6**	**11.6**	**11.6**
Own revenues	8.7	8.4	8.5	8.6	8.6	8.6	8.6
Indirect taxes	7.2	7.0	7.0	7.1	7.1	7.1	7.1
Other	1.4	1.5	1.5	1.5	1.5	1.5	1.5
Transfers from the federal government	3.1	2.9	2.9	3.0	3.0	3.0	3.0
Total primary expenditure	**10.9**	**10.8**	**10.9**	**10.8**	**10.7**	**10.7**	**10.7**
Current expenditures	9.7	9.7	9.6	9.8	9.7	9.7	9.7
Personnel	5.0	5.0	4.9	5.0	5.0	5.0	5.0
Other	4.7	4.7	4.7	4.8	4.7	4.7	4.7
Capital expenditures and other	1.2	1.1	1.3	1.1	1.1	1.1	1.1
Primary balance of municipalities	0.2	0.1	0.1	0.1	0.1	0.1	0.1
Primary balance	**1.0**	**0.6**	**0.5**	**0.8**	**1.0**	**1.0**	**1.0**
Borrowing requirement	0.7	-0.1	1.3	0.5	0.8	0.8	0.7
PUBLIC ENTERPRISES							
Primary balance	**0.3**	**0.2**	**0.2**	**0.1**	**0.0**	**0.0**	**0.0**
NONFINANCIAL PUBLIC SECTOR							
Primary balance	**4.1**	**2.2**	**2.5**	**3.1**	**3.1**	**3.2**	**3.1**
Primary balance for fiscal target 3/	3.6	2.5	3.1	2.8	3.1	3.2	3.1
Overall balance	-1.3	-3.0	-2.7	-2.6	-1.9	-2.1	-1.9
Overall balance including policy lending 4/	-2.3	-6.1	-5.7	-3.8	-3.1	-2.6	-1.9
Structural primary balance 5/	3.4	2.5	1.5	2.6	2.9	3.2	3.1
Structural primary balance including policy lending	2.4	-0.6	-1.5	1.4	1.7	2.7	3.1
Memorandum items							
Growth Acceleration Program	0.4	0.6	1.0	1.0	1.0	1.0	1.0
Net central government debt 6/	25.1	30.0	27.7	25.6	23.8	21.9	17.6
Net public sector debt 6/	38.0	41.5	39.1	36.4	34.6	32.5	27.5
Gross public sector debt	63.5	66.9	65.2	64.9	64.2	61.7	55.0

Sources: Central Bank of Brazil; Ministry of Finance; Ministry of Planning and the Budget; and Fund staff estimates.
1/ Comprises the central administration; the Central Bank of Brazil; and the social security system.
2/ Excludes proceeds from privatization.
3/ Adjusted for transfers to the Sovereign Wealth Fund in 2008, and part of Growth Acceleration Program in 2009 and 2010.
4/ Policy lending to BNDES and others.
5/ Structural primary balance adjusts for output gap and one-off measures in 2009 and 2010 (sale of Eletrobras debt and Petrobras operation).
6/ Includes assets, which mainly comprise international reserves, financial assets of public enterprises, and assets of the

Table 4. Brazil: Depository Corporations and Monetary Aggregates
(End of period, in billions of reais)

	2005	2006	2007	2008	2009	2010	2011
	I. Central Bank						
Net foreign assets	**131.3**	**195.8**	**321.3**	**494.1**	**436.5**	**506.2**	**678.1**
Net international reserves	123.7	181.0	290.2	450.2	415.0	480.4	659.8
Other foreign assets (net)	7.5	14.8	31.0	43.9	21.5	25.8	18.4
Net domestic assets	**62.6**	**24.8**	**-68.9**	**-256.6**	**-178.7**	**57.0**	**-60.2**
Net claims on public sector	72.9	79.8	84.9	233.2	228.1	292.7	176.4
Net credit to other depository corporations	-18.0	-57.4	-163.3	-469.0	-426.1	-258.3	-304.9
Other items (net)	-7.6	-2.4	-9.5	20.7	-19.3	-22.6	-68.4
Base money	**181.4**	**204.2**	**248.8**	**205.1**	**228.9**	**530.5**	**587.7**
Currency issued	70.0	85.8	102.9	115.6	131.9	151.1	162.8
Liabilities to other depository corporations	111.3	118.4	146.0	89.5	97.1	379.3	424.9
Reserve deposits	104.5	118.4	146.0	89.5	97.1	379.3	424.9
Liabilities to other sectors	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	II. Depository Corporations 1/						
Net foreign assets	**80.6**	**142.5**	**257.2**	**370.6**	**368.4**	**399.8**	**508.0**
Net international reserves	123.7	181.0	290.2	450.2	415.0	480.4	659.8
Other foreign assets (net)	-43.2	-38.6	-33.1	-79.6	-46.6	-80.7	-151.7
Net domestic assets	**1,091.5**	**1,247.9**	**1,388.7**	**1,571.9**	**1,881.3**	**2,195.5**	**2,572.8**
Net claims on public sector	902.5	1,028.2	1,090.7	1,213.4	1,237.6	1,347.5	1,349.5
Credit to other financial corporations	80.1	153.9	209.1	228.1	253.4	325.7	385.9
Credit to private sector	651.8	819.1	1,119.2	1,455.9	1,532.8	1,920.6	2,403.5
Of which: loans to private sector	556.7	678.0	874.1	1,121.3	1,270.5	1,561.8	1,877.3
Other items (net)	561.9	770.3	1,047.9	1,351.1	1,195.2	1,457.1	1,642.0
Capital	299.4	364.8	432.1	660.4	684.9	797.6	858.7
Other liabilities excluded from broad money	262.5	405.5	615.8	690.7	510.4	659.5	783.3
Broad money (M2) 2/	**1,172.1**	**1,390.3**	**1,645.8**	**1,942.4**	**2,249.7**	**2,595.3**	**3,080.8**
Currency in circulation	58.3	68.9	82.2	92.4	105.8	122.0	131.7
Demand deposits	85.9	104.7	149.8	130.0	143.1	159.0	152.6
Quasi-money liabilities	1,027.8	1,216.8	1,413.8	1,720.0	2,000.8	2,314.3	2,796.5
	(Ratio)						
Multiplier (M2/base money)	6.5	6.8	6.6	9.5	9.8	4.9	5.2
	(In percent of GDP)						
Base money	8.4	8.6	9.4	6.8	7.1	14.1	14.2
Broad money (M2)	54.6	58.7	61.8	64.1	69.4	68.8	74.3
M3 3/	54.3	58.1	60.8	62.9	68.0	67.6	72.9
M4 4/	61.1	65.8	70.8	73.9	80.3	80.6	85.0
Financial sector credit to the private sector	30.4	34.6	42.1	48.0	47.3	50.9	58.0
Of which: bank credit	25.9	28.6	32.8	37.0	39.2	41.4	45.3
Memorandum item							
GDP (in billions of national currency)	2,147	2,369	2,661	3,032	3,239	3,770	4,147

Sources: Central Bank of Brazil; and Fund staff estimates.

1/ Includes the Central Bank of Brazil, commercial banks, multiple banks, financial (money market) investment funds, Banco do Brasil, Federal Savings Bank, state savings bank, investment banks, National Bank for Economic and Social Development (BNDES), state development banks, finance and investment companies, housing credit companies, and mortgage companies.
2/ M2 includes the liabilities to other financial corporations, state and municipal governments, nonfinanical public enterprises, other nonfinanical corporations, and other resident sectors.
3/ Authorities' definition. M3 comprises M2 plus shares in financial investment funds and the net position of the securities used in their purchase agreements transactions with money holding sectors.
4/ Authorities' definition. M4 comprises M3 plus federal, state, and municipal liquid securities held by the public.

Table 5. Brazil: Medium-Term Macroeconomic Framework, Balance of Payments, and External Debt

	2008	2009	2010	2011	Proj. 2012	Proj. 2013	Proj. 2014	Proj. 2015	Proj. 2016	Proj. 2017
MACROECONOMIC FRAMEWORK				*In percent of GDP, unless otherwise specified*						
GDP growth at constant prices (in percent)	5.2	-0.3	7.5	2.7	2.5	4.6	4.1	4.1	4.1	4.1
Consumer prices (IPCA, end of period, in percent)	5.9	4.3	5.9	6.5	4.8	5.0	4.5	4.5	4.5	4.5
Gross domestic investment	20.7	17.8	20.2	20.6	21.2	21.7	22.1	22.5	22.8	23.4
Private sector	18.5	15.7	17.9	18.4	18.8	19.3	19.6	19.9	20.2	20.7
Public sector	2.2	2.1	2.4	2.2	2.4	2.4	2.5	2.5	2.6	2.7
Gross domestic savings	19.0	16.3	18.0	18.5	18.6	18.7	18.9	19.2	19.5	20.1
Private sector	17.6	17.1	18.7	18.8	18.0	18.3	18.5	18.5	18.8	19.2
Public sector	1.4	-0.8	-0.6	-0.4	0.6	0.4	0.4	0.6	0.7	0.9
External current account balance	-1.7	-1.5	-2.2	-2.1	-2.6	-3.0	-3.2	-3.3	-3.3	-3.3
Central government primary balance	2.8	1.3	1.8	2.2	2.2	2.2	2.2	2.2	2.2	2.2
Consolidated non-financial public sector										
Primary balance	4.1	2.2	2.5	3.1	3.1	3.2	3.1	3.1	3.1	3.1
Overall balance	-1.3	-3.0	-2.7	-2.6	-1.9	-2.1	-2.2	-2.0	-2.0	-1.9
Public sector net debt	38.0	41.5	39.1	36.4	34.6	32.5	30.9	29.6	28.4	27.5
NFPS gross debt	63.5	66.9	65.2	64.9	64.2	61.7	59.9	58.3	56.1	55.0
EXTERNAL DEBT 1/ 2/				In billions of US Dollars						
Total external debt	**198.4**	**198.2**	**256.8**	**298.2**	**329.2**	**362.8**	**395.6**	**429.2**	**462.8**	**496.2**
Medium- and long-term	161.9	167.2	199.5	258.6	295.6	335.4	374.3	414.1	453.7	493.3
Nonfinancial public sector	67.3	77.2	65.1	57.8	61.2	66.0	70.5	74.7	78.7	82.6
Private sector	94.6	90.1	134.4	200.7	234.5	269.3	303.8	339.4	375.1	410.7
Short-term	36.5	31.0	57.3	39.7	33.5	27.4	21.3	15.1	9.0	2.9
Medium- and long-term external debt service	**56.5**	**61.8**	**60.4**	**67.7**	**54.6**	**52.9**	**55.7**	**62.4**	**70.8**	**78.0**
Amortization	39.1	45.8	44.8	49.7	39.0	42.2	45.7	49.1	52.7	56.3
Interest	17.5	16.0	15.6	18.0	15.6	10.8	10.1	13.3	18.1	21.8
					In percent of GDP					
Total external debt	**12.0**	**12.2**	**12.0**	**12.0**	**13.5**	**14.4**	**14.7**	**14.9**	**15.1**	**15.1**
Medium- and long-term	9.8	10.3	9.3	10.4	12.1	13.3	13.9	14.4	14.8	15.0
Nonfinancial public sector	4.1	4.8	3.0	2.3	2.5	2.6	2.6	2.6	2.6	2.5
Private sector	5.7	5.6	6.3	8.1	9.6	10.7	11.3	11.8	12.2	12.5
Short-term	2.2	1.9	2.7	1.6	1.4	1.1	0.8	0.5	0.3	0.1
					In percent of gross international reserves					
Medium- and long-term external debt service	**29.2**	**25.9**	**20.9**	**19.2**	**14.3**	**13.2**	**13.3**	**14.4**	**15.8**	**16.9**
Amortization	20.2	19.2	15.5	14.1	10.2	10.5	10.9	11.3	11.8	12.2
Interest	9.0	6.7	5.4	5.1	4.1	2.7	2.4	3.1	4.0	4.7
Short-term debt	18.8	13.0	19.9	11.3	8.8	6.8	5.1	3.5	2.0	0.6
MEMORANDUM ITEMS										
Gross reserves (eop) 2/ 3/										
In billions of U.S. dollars	193.8	238.5	288.6	352.0	380.3	401.1	418.1	433.1	447.9	462.8
In percent of short-term debt (residual maturity)	531.4	769.7	503.6	887.5	1,134.1	1,463.7	1,965.4	2,859.9	4,969.8	16,067.3
In months of prospective GNFS imports	9.2	8.1	8.0	8.9	9.1	9.1	9.0	8.8	8.5	8.4
Net international reserves (eop) 2/ 3/										
In billions of U.S. dollars	193.8	238.5	288.6	352.0	380.3	401.1	418.1	433.1	447.9	461.8
In percent of short-term debt (residual maturity)	531.4	769.7	503.6	887.5	1,134.1	1,463.7	1,965.4	2,859.9	4,969.8	16,032.6
Short-term debt in percent of total external debt	18.4	15.6	22.3	13.3	10.2	7.6	5.4	3.5	1.9	0.6
Intercompany debt (in billions of U.S. dollars)	64.6	79.4	95.1	107.0	119.2	131.4	143.6	155.8	167.9	180.1
In percent of GDP	3.9	4.9	4.4	4.3	4.9	5.2	5.3	5.4	5.5	5.5
GDP (billion US$)	1,650	1,622	2,143	2,493	2,438	2,523	2,696	2,878	3,072	3,279

Sources: Central Bank of Brazil, and IMF staff estimates and projections.

1/ Excludes intercompany debt under direct investment.
2/ Adjusted for buyback of Brady bonds of US$6 bn in April 2006 and early-retired debt of US$2.3 bn as of end-February 2006; not adjusted for other debt that may be retired up to a limit of US$11.7 bn.
3/ Historical numbers include valuation changes.

Table 6. Brazil: External Vulnerability

(In billions of U.S. dollars, unless otherwise indicated)

	2004	2005	2006	2007	2008	2009	2010	2011
External indicators								
Exports of GNFS (12-month percent change, US$)	30.6	23.2	17.1	17.4	23.7	-20.9	29.2	26.0
Imports of GNFS (12-month percent change, US$)	25.8	22.3	23.0	31.0	39.6	-20.7	39.8	23.8
Terms of trade (12-month percent change)	0.9	0.8	5.3	2.1	3.5	-3.2	17.0	7.8
Current account	11.7	14.0	13.6	1.6	-28.2	-24.3	-47.3	-52.5
In percent of GDP	1.8	1.6	1.3	0.1	-1.7	-1.5	-2.2	-2.1
Capital and financial account	-7.5	-9.5	16.3	89.1	29.3	71.3	99.6	109.4
Of which: Portfolio investment (net)	-5.2	4.6	4.3	37.9	3.5	50.5	56.4	31.2
Foreign direct investment (net)	8.3	12.5	-9.4	27.5	24.6	36.0	36.9	76.0
Fund support (net)	-4.4	-23.8	0.0	0.0	0.0	0.0	0.0	0.0
Short-term liabilities of the BCB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Short-term liabilities of commercial banks	16.0	15.7	16.5	27.6	28.2	29.4	51.1	38.1
Total external debt 1/	201.4	169.5	172.5	193.2	198.4	198.2	256.8	298.2
In percent of gross reserves	380.4	315.0	200.9	107.1	102.4	83.1	89.0	84.7
Amortization of external MLT debt (in percent of GNFS exports)	35.4	43.3	34.9	35.6	17.1	25.3	19.2	16.9
External interest payments (in percent of GNFS exports)	14.0	11.7	10.4	9.3	7.6	8.9	6.7	6.1
Gross reserves	52.9	53.8	85.8	180.3	193.8	238.5	288.6	352.0
In months of prospective GNFS imports	6.5	5.4	4.5	6.8	9.2	8.1	8.0	8.9
In percent of broad money (M2)	5.4	4.6	6.2	11.0	10.0	10.6	11.1	11.4
In percent of short-term external debt	213.2	286.5	425.1	463.6	531.4	769.7	503.6	887.5
In percent of short-term external debt by residual maturity	91.0	97.9	130.7	461.1	422.7	531.8	580.3	902.3
Net international reserves	27.5	53.8	85.8	180.3	193.8	238.5	288.6	352.0
In months of prospective GNFS imports	2.3	3.7	4.5	6.8	9.2	8.1	8.0	8.9
In percent of broad money (M2)	2.8	4.6	6.2	11.0	10.0	10.6	11.1	11.4
In percent of short-term external debt	110.9	286.5	425.1	463.6	531.4	769.7	503.6	887.5
In percent of short-term external debt by residual maturity	47.4	97.9	130.7	461.1	422.7	531.8	580.3	902.3
Exchange rate (R$/US$, period average)	2.93	2.44	2.18	1.95	1.84	2.00	1.76	1.66
REER (annual average in percent; appreciation +)	5.6	22.6	12.1	8.3	5.4	0.3	14.4	4.7

Sources: Central Bank of Brazil, Bloomberg, and IMF staff estimates.

1/ Adjusted for reclassification of intercompany loans and recalculation of debt stock.

Table 7. Brazil: Statement of Operations of the General Government (GFSM 2001)

(Percent of GDP)

	2008	2009	2010	2011	2012	2013	2017
Revenue	33.8	32.8	34.4	34.0	34.0	34.2	34.3
Taxes	24.1	22.6	22.6	23.8	23.7	23.9	23.9
Social contributions	5.4	5.6	5.6	5.9	6.0	6.0	6.1
Grants	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other revenue	4.3	4.6	6.1	4.2	4.2	4.3	4.3
Expenditure	35.3	36.0	37.2	36.6	35.7	36.1	36.1
Expense	33.2	33.9	33.3	34.4	33.4	33.7	33.5
Compensation of employees	9.3	9.7	9.3	9.3	9.2	9.2	9.1
Use of goods and services	12.0	12.1	12.0	12.7	12.3	12.4	12.6
Consumption of fixed capital	...	...	...	...	...	...	...
Interest	5.3	5.2	5.2	5.6	4.9	5.1	4.9
Subsidies	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grants	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Social benefits	6.6	6.9	6.8	6.8	7.0	7.0	6.9
Other expense	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net acquisition of nonfinancial assets	2.2	2.1	4.0	2.2	2.4	2.4	2.6
Acquisitions of nonfinancial assets	...	...	...	...	...	...	...
Disposals of nonfinancial assets	...	...	...	...	...	...	...
Consumption of fixed capital	...	...	...	...	...	...	...
Gross Operating Balance	0.6	-1.1	1.1	-0.4	0.6	0.5	0.9
Net Operating Balance	...	...	...	...	...	...	...
Net lending (+)/borrowing (–)	-1.5	-3.3	-2.8	-2.6	-1.8	-2.0	-1.8
Net acquisition of financial assets	2.9	5.2	4.8	2.2	...	...	...
Domestic	2.9	5.2	4.7	2.2	...	...	...
Currency and deposits	1.9	2.1	1.7	0.8	...	...	...
Debt securities	0.0	0.0	0.0	0.0	...	...	...
Loans	1.0	3.1	3.0	1.4	...	...	...
Equity and investment fund shares	0.0	0.0	0.0	0.0	...	...	...
Insurance, pensions, and standardized guarantee schemes	0.0	0.0	0.0	0.0	...	...	...
Financial derivatives and employee stock options	0.0	0.0	0.0	0.0	...	...	...
Other accounts receivable	...	...	...	...	...	...	...
Foreign	0.0	0.0	0.0	0.0	...	...	...
Monetary gold and SDRs	0.0	0.0	0.0	0.0	...	...	...
Currency and deposits	0.0	0.0	0.0	0.0	...	...	...
Debt securities	0.0	0.0	0.0	0.0	...	...	...
Loans	0.0	0.0	0.0	0.0	...	...	...
Equity and investment fund shares	0.0	0.0	0.0	0.0	...	...	...
Insurance, pensions, and standardized guarantee schemes	0.0	0.0	0.0	0.0	...	...	...
Financial derivatives and employee stock options	0.0	0.0	0.0	0.0	...	...	...
Other accounts receivable	...	...	...	...	...	...	...
Net incurrence of liabilities	5.3	8.5	7.7	5.3	...	...	...
Domestic	5.5	8.5	7.7	5.6	...	...	...
Currency and deposits	0.0	0.0	0.0	0.0	...	...	...
Debt securities	5.5	8.5	7.5	5.5	...	...	...
Loans	0.0	0.0	0.2	0.1	...	...	...
Equity and investment fund shares	0.0	0.0	0.0	0.0	...	...	...
Insurance, pensions, and standardized guarantee schemes	0.0	0.0	0.0	0.0	...	...	...
Financial derivatives and employee stock options	0.0	0.0	0.0	0.0	...	...	...
Other accounts payable	...	...	...	...	...	...	...
Foreign	-0.1	-0.1	0.0	-0.3	...	...	...
SDRs	0.0	0.0	0.0	0.0	...	...	...
Currency and deposits	0.0	0.0	0.0	0.0	...	...	...
Debt securities	0.0	0.0	0.0	0.0	...	...	...
Loans	-0.1	-0.1	0.0	-0.3	...	...	...
Equity and investment fund shares	0.0	0.0	0.0	0.0	...	...	...
Insurance, pensions, and standardized guarantee schemes	0.0	0.0	0.0	0.0	...	...	...
Financial derivatives and employee stock options	0.0	0.0	0.0	0.0	...	...	...
Other accounts payable	...	...	...	...	...	...	...

Sources: Central Bank of Brazil; Ministry of Finance; and Ministry of Planning and the Budget.

Table 8. Brazil: General Government Stock Positions (GFSM 2001)

(Percent of GDP)

	2006	2007	2008	2009	2010	2011
Stock positions:						
Net worth	...	...	...	...	...	...
Nonfinancial assets	...	...	...	...	...	...
Net financial worth	-46.1	-44.4	-38.8	-42.5	-39.7	-37.1
Financial assets	20.6	20.8	24.8	24.4	25.5	27.9
Domestic	20.6	20.8	24.8	24.4	25.5	27.9
Currency and deposits	20.3	20.4	23.5	20.0	18.8	19.9
Debt securities	0.0	0.0	0.0	0.0	0.0	0.0
Loans	0.3	0.4	1.3	4.3	6.7	8.0
Equity and investment fund shares	0.0	0.0	0.0	0.0	0.0	0.0
Insurance, pensions, and standardized guarantee schemes	0.0	0.0	0.0	0.0	0.0	0.0
Financial derivatives and employee stock options	0.0	0.0	0.0	0.0	0.0	0.0
Other accounts receivable	0.0	0.0	0.0	0.0	0.0	0.0
Foreign	0.0	0.0	0.0	0.0	0.0	0.0
Monetary gold and SDRs	0.0	0.0	0.0	0.0	0.0	0.0
Currency and deposits	0.0	0.0	0.0	0.0	0.0	0.0
Debt securities	0.0	0.0	0.0	0.0	0.0	0.0
Loans	0.0	0.0	0.0	0.0	0.0	0.0
Equity and investment fund shares	0.0	0.0	0.0	0.0	0.0	0.0
Insurance, pensions, and standardized guarantee schemes	0.0	0.0	0.0	0.0	0.0	0.0
Financial derivatives and employee stock options	0.0	0.0	0.0	0.0	0.0	0.0
Other accounts receivable	0.0	0.0	0.0	0.0	0.0	0.0
Liabilities	66.7	65.2	63.5	66.9	65.2	64.9
Domestic	60.3	59.4	56.7	60.5	57.8	57.8
Currency and deposits	0.0	0.0	0.0	0.0	0.0	0.0
Debt securities	58.8	58.1	55.6	59.3	56.7	56.7
Loans	1.5	1.3	1.1	1.2	1.2	1.1
Equity and investment fund shares	0.0	0.0	0.0	0.0	0.0	0.0
Insurance, pensions, and standardized guarantee schemes	0.0	0.0	0.0	0.0	0.0	0.0
Financial derivatives and employee stock options	0.0	0.0	0.0	0.0	0.0	0.0
Other accounts payable	0.0	0.0	0.0	0.0	0.0	0.0
Foreign	6.4	5.8	6.8	6.4	7.3	7.1
Monetary gold and SDRs	0.0	0.0	0.0	0.0	0.0	0.0
Currency and deposits	0.0	0.0	0.0	0.0	0.0	0.0
Debt securities	0.0	1.4	2.0	3.0	4.4	4.5
Loans	6.4	4.4	4.8	3.4	2.9	2.6
Equity and investment fund shares	0.0	0.0	0.0	0.0	0.0	0.0
Insurance, pensions, and standardized guarantee schemes	0.0	0.0	0.0	0.0	0.0	0.0
Financial derivatives and employee stock options	0.0	0.0	0.0	0.0	0.0	0.0
Other accounts payable	0.0	0.0	0.0	0.0	0.0	0.0
Other economic flows:						
Change in net worth from other flows	...	...	...	...	...	...
Nonfinancial assets	...	...	...	...	...	...
Net financial worth	...	...	...	...	...	...
Financial assets	...	...	...	...	...	...
Domestic	...	...	...	...	...	...
Foreign	...	...	...	...	...	...
Liabilities	...	...	...	...	...	...
Domestic	...	...	...	...	...	...
Foreign	...	...	...	...	...	...

Sources: Central Bank of Brazil; and Ministry of Finance.

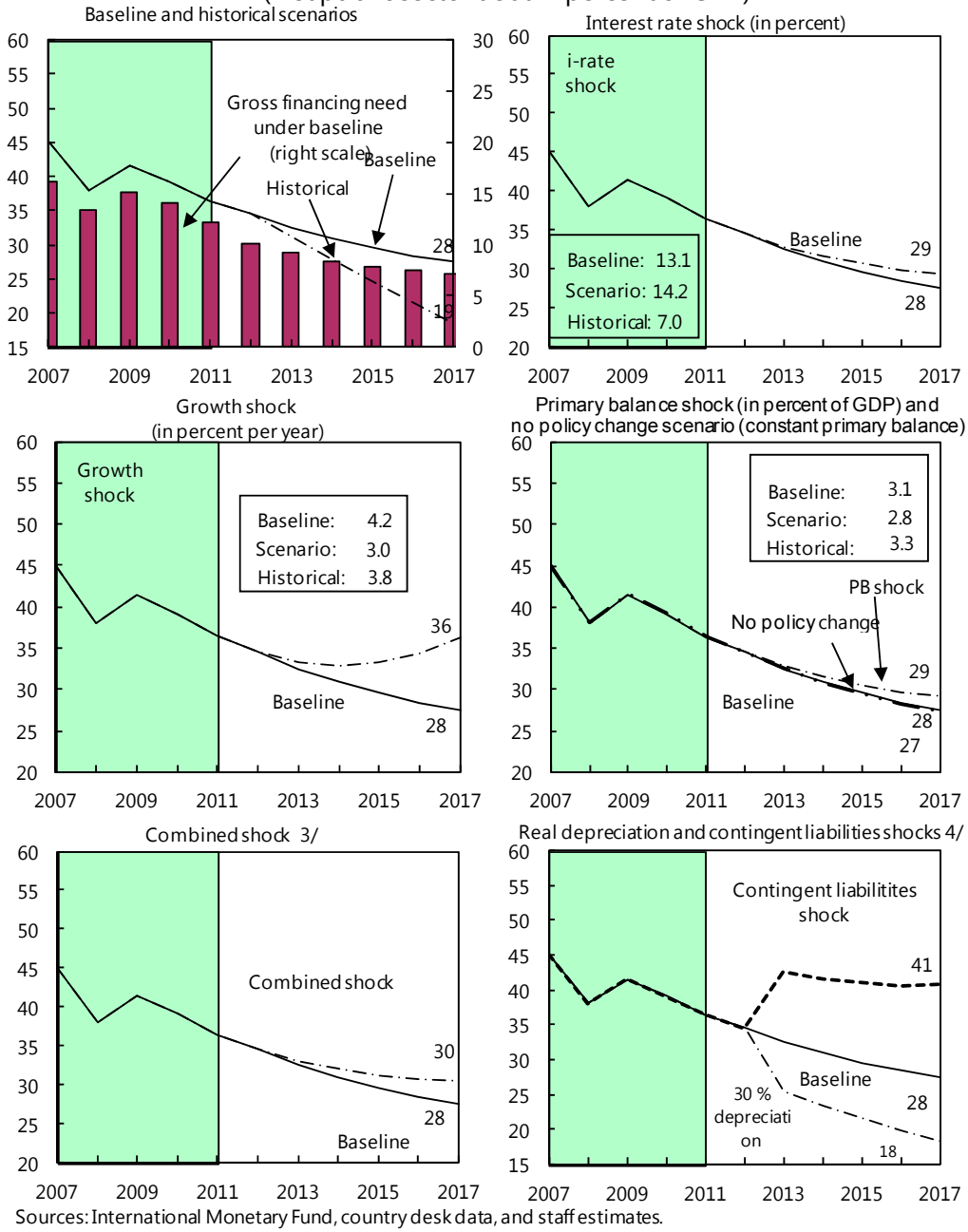
Table 9. Brazil: Net Public Sector Debt Sustainability Framework 2009 - 2017
(In percent of GDP, unless otherwise indicated)

	Actual			Projections						Debt-stabilizing primary balance 9/
	2009	2010	2011	2012	2013	2014	2015	2016	2017	
Baseline: Public sector debt 1/	41.5	39.1	36.4	**34.6**	**32.5**	**30.9**	**29.6**	**28.4**	**27.5**	**2.2**
o/w foreign-currency denominated	-8.6	-9.3	-12.8	-14.7	-14.3	-13.9	-13.4	-12.9	-12.4	
Change in public sector debt	3.5	-2.4	-2.7	-1.8	-2.1	-1.5	-1.4	-1.2	-0.9	
Identified debt-creating flows (4+7+12)	2.7	-2.8	-2.0	-0.9	-1.1	-0.6	-0.6	-0.6	-0.5	
Primary deficit	-2.2	-2.5	-3.09	-3.12	-3.17	-3.10	-3.10	-3.10	-3.10	
Revenue and grants	33.9	35.4	35.0	35.0	35.2	35.2	35.3	35.3	35.3	
Primary (noninterest) expenditure	31.7	32.9	31.9	31.9	32.0	32.1	32.2	32.2	32.2	
Automatic debt dynamics 2/	4.9	-0.3	1.1	2.2	2.1	2.5	2.5	2.5	2.6	
Contribution from interest rate/growth differential 3/	2.7	-0.7	2.2	2.2	2.1	2.5	2.5	2.5	2.6	
Of which contribution from real interest rate	2.6	2.0	3.2	3.1	3.6	3.7	3.6	3.7	3.6	
Of which contribution from real GDP growth	0.1	-2.7	-1.0	-0.8	-1.5	-1.2	-1.2	-1.1	-1.1	
Contribution from exchange rate depreciation 4/	2.2	0.3	-1.1	...	...	...	...	...	...	
Other identified debt-creating flows	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Privatization receipts (negative)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Recognition of implicit or contingent liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Other (specify, e.g. bank recapitalization)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Residual, including asset changes (2-3) 5/	0.8	0.4	-0.8	-1.0	-1.0	-0.9	-0.8	-0.6	-0.4	
Public sector debt-to-revenue ratio 1/	122.6	110.5	104.0	98.8	92.3	87.8	83.8	80.4	77.8	
Gross financing need 6/	15.1	14.0	12.2	10.2	9.2	8.3	7.9	7.6	7.2	
in billions of U.S. dollars	244.3	300.7	303.5	247.6	231.9	225.0	227.0	232.1	237.1	
Scenario with key variables at their historical averages 7/				**34.6**	**31.2**	**27.9**	**24.6**	**21.5**	**18.5**	**0.3**
Scenario with no policy change (constant primary balance) in 2012-2017				**34.6**	**32.5**	**30.9**	**29.5**	**28.3**	**27.4**	**2.2**
Key Macroeconomic and Fiscal Assumptions Underlying Baseline										
Real GDP growth (in percent)	-0.3	7.5	2.7	2.5	4.6	4.1	4.1	4.1	4.1	
Average nominal interest rate on public debt (in percent) 8/	14.5	14.5	16.0	14.8	16.6	17.7	18.1	18.8	19.2	
Average real interest rate (nominal rate minus change in GDP deflator, in percent)	7.3	6.3	9.1	9.3	11.6	12.7	13.1	13.8	14.2	
Nominal appreciation (increase in US dollar value of local currency, in percent)	33.0	4.5	-11.2	...	...	...	...	...	...	
Inflation rate (GDP deflator, in percent)	7.2	8.2	7.0	5.6	5.0	5.0	5.0	5.0	5.0	
Growth of real primary spending (deflated by GDP deflator, in percent)	2.4	11.7	-0.4	2.3	5.2	4.5	4.2	4.3	4.2	
Primary deficit	-2.2	-2.5	-3.1	-3.1	-3.2	-3.1	-3.1	-3.1	-3.1	

1/ Public sector net debt. It comprises federal government (central government, central bank, and social security), states, municipalities, and public enterprises.

2/ Derived as [(r - π(1+g) - g + ae(1+r)]/(1+g+π+gπ)) times previous period debt ratio, with r = interest rate; π = growth rate of GDP deflator; g = real GDP growth rate; a = share of foreign-currency denominated debt; and e = nominal exchange rate depreciation (measured by increase in local currency value of U.S. dollar).
3/ The real interest rate contribution is derived from the denominator in footnote 2/ as r - π (1+g) and the real growth contribution as -g.
4/ The exchange rate contribution is derived from the numerator in footnote 2/ as ae(1+r).
5/ For projections, this line includes exchange rate changes.
6/ Defined as public sector deficit, plus amortization of medium and long-term public sector debt, plus short-term debt at end of previous period.
7/ The key variables include real GDP growth; real interest rate; and primary balance in percent of GDP.
8/ Derived as nominal interest expenditure divided by previous period debt stock.

Figure 6. Brazil: Public Debt Sustainability: Bound Tests 1/ 2/
(Net public sector debt in percent of GDP)



Sources: International Monetary Fund, country desk data, and staff estimates.
1/ Shaded areas represent actual data. Individual shocks are permanent one-half standard deviation shocks. Figures in the boxes represent average projections for the respective variables in the baseline and scenario being presented. Ten-year historical average for the variable is also shown.
2/ For historical scenarios, the historical averages are calculated over the ten-year period, and the information is used to project debt dynamics five years ahead.
3/ Permanent 1/4 standard deviation shocks applied to real interest rate, growth rate, and primary balance.
4/ One-time real depreciation of 30 percent and 10 percent of GDP shock to contingent liabilities occur in 2012, with real depreciation defined as nominal depreciation (measured by percentage fall in dollar value of local currency) minus domestic inflation (based on GDP deflator).

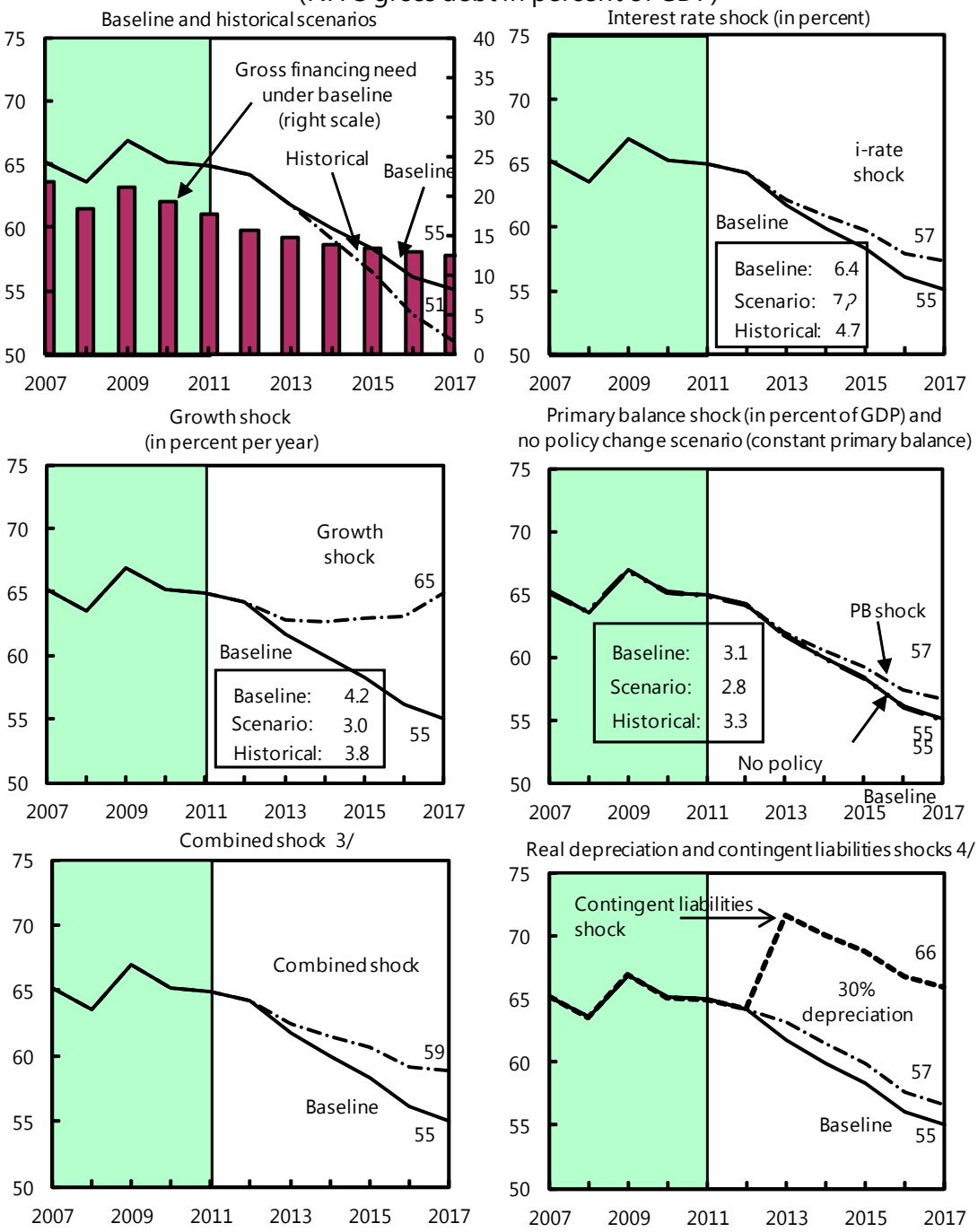
Table 10. Brazil: NFPS Gross Debt Sustainability Framework, 2009-2017
(In percent of GDP, unless otherwise indicated)

	Actual			Projections						Debt-stabilizing primary balance 9/
	2009	2010	2011	2012	2013	2014	2015	2016	2017	
Baseline: Public sector debt 1/	66.9	65.2	64.9	**64.2**	**61.7**	**59.9**	**58.3**	**56.1**	**55.0**	**1.4**
o/w foreign-currency denominated	3.7	3.1	2.9	2.9	2.8	2.8	2.8	2.8	2.8	
Change in public sector debt	3.4	-1.8	-0.2	-0.8	-2.5	-1.8	-1.6	-2.2	-1.0	
Identified debt-creating flows (4+7+12)	1.8	-2.8	-0.3	-1.1	-2.3	-2.0	-1.9	-1.8	-1.7	
Primary deficit	-2.2	-2.5	-3.1	-3.1	-3.2	-3.1	-3.1	-3.1	-3.1	
Revenue and grants	33.9	35.4	35.0	35.0	35.2	35.2	35.3	35.3	35.3	
Primary (noninterest) expenditure	31.7	32.9	31.9	31.9	32.0	32.1	32.2	32.2	32.2	
Automatic debt dynamics 2/	0.8	-3.3	1.5	0.8	0.3	1.1	1.2	1.3	1.4	
Contribution from interest rate/growth differential 3/	2.1	-3.1	1.2	0.8	0.3	1.1	1.2	1.3	1.4	
Of which contribution from real interest rate	1.9	1.2	2.8	2.3	3.1	3.4	3.5	3.5	3.5	
Of which contribution from real GDP growth	0.2	-4.3	-1.6	-1.5	-2.7	-2.3	-2.3	-2.2	-2.1	
Contribution from exchange rate depreciation 4/	-1.3	-0.1	0.4	...	...	...	...	...	...	
Other identified debt-creating flows	3.1	3.0	1.2	1.2	0.6	0.0	0.0	0.0	0.0	
Privatization receipts (negative)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Recognition of implicit or contingent liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Other (specify, e.g. bank recapitalization)	3.1	3.0	1.2	1.2	0.6	0.0	0.0	0.0	0.0	
Residual, including asset changes (2-3) 5/	1.6	1.0	0.1	0.4	-0.2	0.2	0.3	-0.4	0.7	
Public sector debt-to-revenue ratio 1/	197.5	183.9	185.5	183.5	175.4	170.0	165.3	158.8	155.7	
Gross financing need 6/	21.1	19.2	17.7	15.7	14.8	13.9	13.4	13.0	12.4	
in billions of U.S. dollars	372.4	410.4	441.7	382.5	374.0	375.1	385.3	399.0	407.8	
Scenario with key variables at their historical averages 7/				**64.2**	**61.7**	**59.1**	**56.5**	**53.2**	**50.9**	**0.4**
Scenario with no policy change (constant primary balance) in 2012-2017				**64.2**	**61.7**	**60.0**	**58.3**	**56.1**	**55.0**	**1.4**
Key Macroeconomic and Fiscal Assumptions Underlying Baseline										
Real GDP growth (in percent)	-0.3	7.5	2.7	2.5	4.6	4.1	4.1	4.1	4.1	
Average nominal interest rate on public debt (in percent) 8/	10.4	10.9	11.8	9.4	10.5	11.2	11.5	11.8	12.1	
Average real interest rate (nominal rate minus change in GDP deflator, in percent)	3.2	2.7	4.9	3.9	5.5	6.2	6.5	6.8	7.1	
Nominal appreciation (increase in US dollar value of local currency, in percent)	33.0	4.5	-11.2	...	...	...	...	...	...	
Inflation rate (GDP deflator, in percent)	7.2	8.2	7.0	5.6	5.0	5.0	5.0	5.0	5.0	
Growth of real primary spending (deflated by GDP deflator, in percent)	2.4	11.7	-0.4	2.3	5.2	4.5	4.2	4.3	4.2	
Primary deficit	-2.2	-2.5	-3.1	-3.1	-3.2	-3.1	-3.1	-3.1	-3.1	

1/ Indicate coverage of public sector, e.g., general government or nonfinancial public sector. Also whether net or gross debt is used.

2/ Derived as [(r - π(1+g) - g + ae(1+r)]/(1+g+π+gπ)) times previous period debt ratio, with r = interest rate; π = growth rate of GDP deflator; g = real GDP growth rate; a = share of foreign-currency denominated debt; and e = nominal exchange rate depreciation (measured by increase in local currency value of U.S. dollar).
3/ The real interest rate contribution is derived from the denominator in footnote 2/ as r - π (1+g) and the real growth contribution as -g.
4/ The exchange rate contribution is derived from the numerator in footnote 2/ as ae(1+r).
5/ For projections, this line includes exchange rate changes.
6/ Defined as public sector deficit, plus amortization of medium and long-term public sector debt, plus short-term debt at end of previous period.
7/ The key variables include real GDP growth; real interest rate; and primary balance in percent of GDP.
8/ Derived as nominal interest expenditure divided by previous period debt stock.
9/ Assumes that key variables (real GDP growth, real interest rate, and other identified debt-creating flows) remain at the level of the last projection year.

Figure 7. Brazil: Public Debt Sustainability: Bound Tests 1/ 2/
(NFPS gross debt in percent of GDP)



Sources: International Monetary Fund, country desk data, and staff estimates.
1/ Shaded areas represent actual data. Individual shocks are permanent one-half standard deviation shocks. Figures in the boxes represent average projections for the respective variables in the baseline and scenario being presented. Ten-year historical average for the variable is also shown.
2/ For historical scenarios, the historical averages are calculated over the ten-year period, and the information is used to project debt dynamics five years ahead.
3/ Permanent 1/4 standard deviation shocks applied to real interest rate, growth rate, and primary balance.
4/ One-time real depreciation of 30 percent and 10 percent of GDP shock to contingent liabilities occur in 2012, with real depreciation defined as nominal depreciation (measured by percentage fall in dollar value of local currency)

Table 11. Brazil: External Debt Sustainability Framework, 2009 - 2017
(In percent of GDP, unless otherwise indicated)

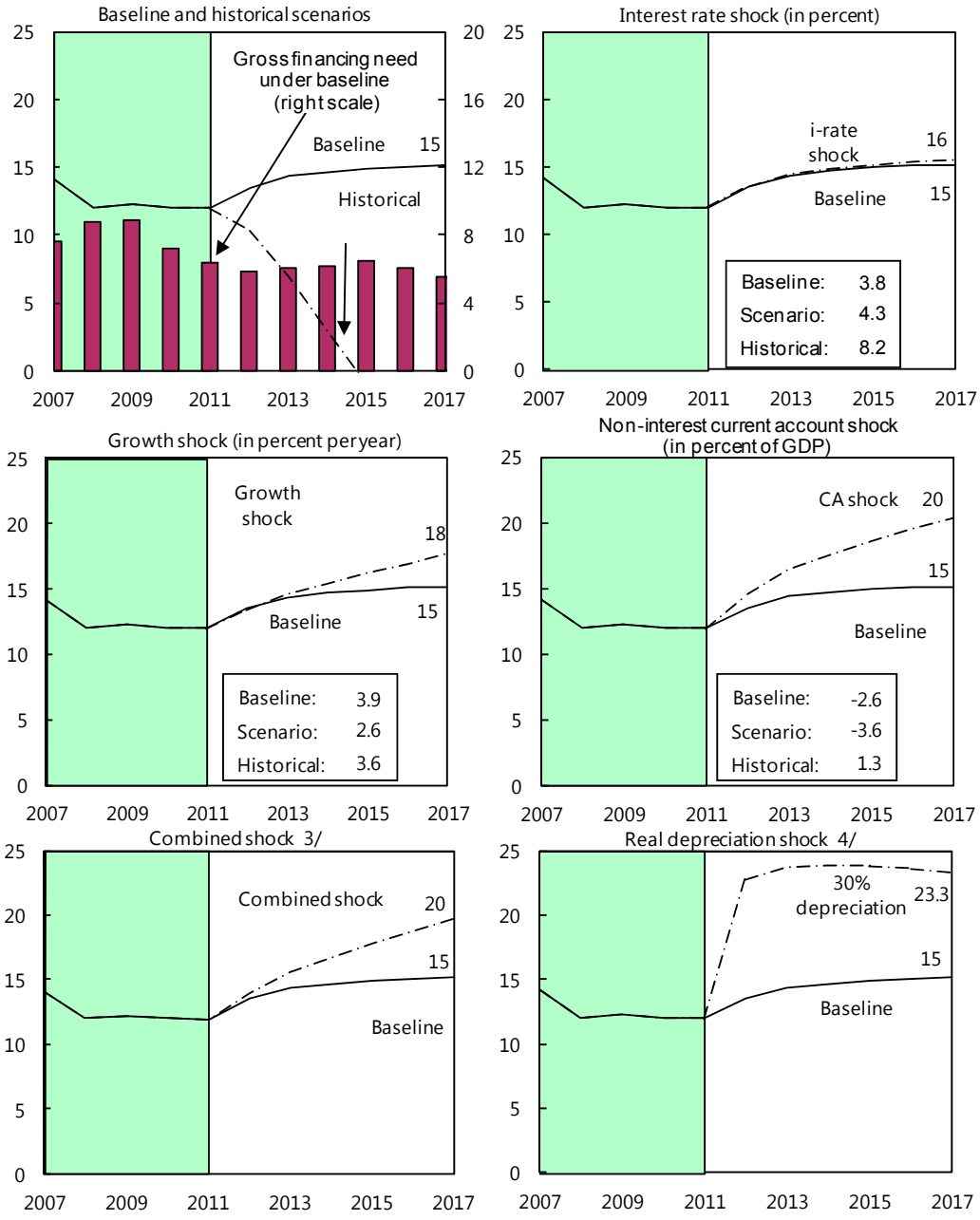
	Actual									Debt-stabilizing non-interest current account 6/
	2009	2010	2011	2012	2013	2014	2015	2016	2017	
Baseline: External debt	12.2	12.0	12.0	**13.5**	**14.4**	**14.7**	**14.9**	**15.1**	**15.1**	**-3.0**
Change in external debt	0.2	-0.2	0.0	1.5	0.9	0.3	0.2	0.1	0.0	
Identified external debt-creating flows (4+8+9)	-3.9	-1.7	-0.8	0.3	0.4	0.6	0.7	0.7	0.0	
Current account deficit, excluding interest payments	0.5	1.5	1.4	2.0	2.6	2.8	2.8	2.7	3.0	
Deficit in balance of goods and services	-0.4	0.5	0.3	1.3	1.3	1.6	1.6	1.6	1.6	
Exports	11.1	10.9	11.8	12.2	12.4	12.0	11.8	11.8	11.8	
Imports	10.8	11.4	12.1	13.5	13.8	13.6	13.4	13.4	13.3	
Net non-debt creating capital inflows (negative)	-3.5	-3.6	-2.4	-2.0	-2.0	-2.0	-2.1	-2.1	-2.1	
Automatic debt dynamics 1/	-0.9	0.5	0.3	0.3	-0.2	-0.2	-0.1	0.0	-1.0	
Contribution from nominal interest rate	0.8	0.9	0.8	0.5	0.4	0.4	0.4	0.6	0.6	
Contribution from real GDP growth	0.0	-0.9	-0.3	-0.2	-0.6	-0.5	-0.5	-0.6	-0.6	
Contribution from price and exchange rate changes 2/	-1.8	0.4	-0.2	...	...	...	...	...	-1.0	
Residual, incl. change in gross foreign assets (2-3) 3/	4.1	1.4	0.8	1.3	0.5	-0.3	-0.4	-0.5	0.0	
External debt-to-exports ratio (in percent)	109.7	110.0	101.4	110.2	115.5	122.1	126.0	128.1	128.7	
Gross external financing need (in billions of US dollars) 4/	143.0	154.1	159.5	142.0	151.6	166.7	186.3	184.5	181.5	
in percent of GDP	8.8	7.2	6.4	5.2	4.9	4.8	4.8	4.2	3.7	
Scenario with key variables at their historical averages 5/				**10.3**	**6.9**	**2.9**	**-1.0**	**-4.9**	**-8.6**	**-2.6**
Key Macroeconomic Assumptions Underlying Baseline										
Real GDP growth (in percent)	-0.3	7.5	2.7	2.5	4.6	4.1	4.1	4.1	4.1	
GDP deflator in US dollars (change in percent)	17.4	-3.5	1.6	20.0	8.1	7.6	7.6	7.6	7.6	
Nominal external interest rate (in percent)	8.1	7.9	7.0	5.2	3.3	2.8	3.3	4.2	4.7	
Growth of exports (US dollar terms, in percent)	-20.9	29.2	26.0	1.5	5.1	3.2	5.2	6.0	6.7	
Growth of imports (US dollar terms, in percent)	-20.7	39.8	23.8	9.1	5.3	5.5	5.5	6.1	6.4	
Current account balance, excluding interest payments	-0.5	-1.5	-1.4	-2.0	-2.6	-2.8	-2.8	-2.7	-3.0	
Net non-debt creating capital inflows	3.5	3.6	2.4	2.0	2.0	2.0	2.1	2.1	2.1	

B. Bound Tests

B1. Nominal interest rate is at historical average plus one standard deviation	13.5	14.5	14.8	15.1	15.3	15.5	-3.0
B2. Real GDP growth is at historical average minus one standard deviations	13.4	14.6	15.4	16.2	16.9	17.6	-2.2
B3. Non-interest current account is at historical average minus one standard deviations	14.5	16.4	17.6	18.6	19.6	20.4	-3.3
B4. Combination of B1-B3 using 1/2 standard deviation shocks	14.0	15.5	16.7	17.8	18.8	19.8	-2.6
B5. One time 30 percent real depreciation in 2006	22.8	23.8	23.8	23.8	23.6	23.3	-4.0

1/ Derived as [r - g - r(1+g) + ea(1+r)]/(1+g+r+gr) times previous period debt stock, with r = nominal effective interest rate on external debt; r = change in domestic GDP deflator in US dollar terms, g = real GDP growth rate, e = nominal appreciation (increase in dollar value of domestic currency), and a = share of domestic-currency denominated debt in total external debt.
2/ The contribution from price and exchange rate changes is defined as [-r(1+g) + ea(1+r)]/(1+g+r+gr) times previous period debt stock. r increases with an appreciating domestic currency (e > 0) and rising inflation (based on GDP deflator).
3/ For projection, line includes the impact of price and exchange rate changes.
4/ Defined as current account deficit, plus amortization on medium- and long-term debt, plus short-term debt at end of previous period.
5/ The key variables include real GDP growth; nominal interest rate; dollar deflator growth; and both non-interest current account and non-debt inflows in percent of GDP.
6/ Long-run, constant balance that stabilizes the debt ratio assuming that key variables (real GDP growth, nominal interest rate, dollar deflator growth, and non-

Figure 8. Brazil: External Debt Sustainability: Bound Tests 1/ 2/
(External debt in percent of GDP)



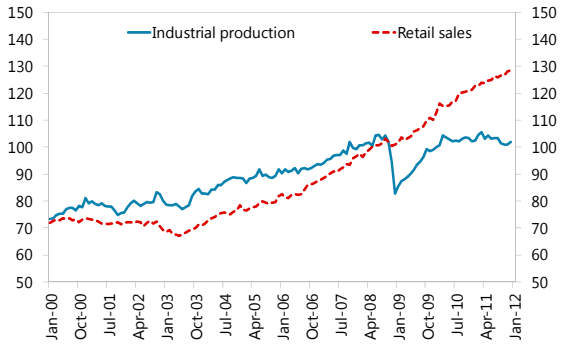
Sources: International Monetary Fund, Country desk data, and staff estimates.
1/ Shaded areas represent actual data. Individual shocks are permanent one-half standard deviation shocks. Figures in the boxes represent average projections for the respective variables in the baseline and scenario being presented. Ten-year historical average for the variable is also shown.
2/ For historical scenarios, the historical averages are calculated over the ten-year period, and the information is used to project debt dynamics five years ahead.
3/ Permanent 1/4 standard deviation shocks applied to real interest rate, growth rate, and current account balance.
4/ One-time real depreciation of 30 percent occurs in 2012.

Annex I. Brazil: The Post-Lehman Performance of Brazilian Manufacturing[1]

Following its v-shaped recovery from the global financial crisis, the Brazilian manufacturing sector has stagnated. This note finds that increases in relative unit labor costs and nominal exchange rate appreciation are among the factors behind this sub-par performance.

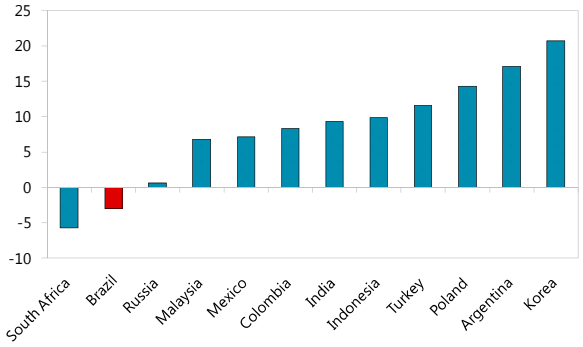
1. ***Industrial production (IP) in Brazil has stagnated since late 2009.*** The Lehman crisis interrupted a 5-year cycle during which the sector grew by almost 5 percent per annum on average. In line with experience in other countries, production collapsed in the immediate aftermath of the demand and credit shocks in the fourth quarter of 2008. However, this was followed by a sharp bounce back with output returning to the pre-crisis level by late 2009. The very weak performance of the sector since then has been in marked contrast to the sustained growth in demand and in the services sector (Text Chart). Indeed, the post-crisis recovery of Brazilian IP has been at the weaker end of emerging market peers.

Brazil: Industrial Production and Retail Sales, 2000-2011
(Quantum index, average 2008=100)



Sources: IBGE; and IMF staff estimates

Manufacturing Growth post-Lehman: International Perspective
(Index numbers early 2012 vs. pre-crisis level)

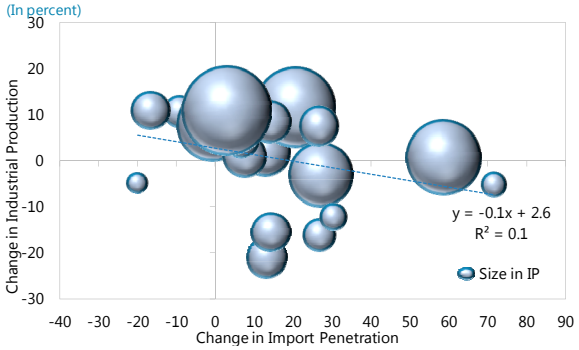


Source: Haver

2. ***This slow growth has been correlated with a stronger exchange rate and increasing import competition.*** The ratio of imports to sales in the industrial sector (looking at imports and sales for final consumption), has increased 34 percent between 2009 and 2011. A particular example of this pattern is the case of the vehicles segment, where the import penetration rose 42 percent while export orientation rose 12 percent. Moreover, post 2009 through its peak, the real exchange rate appreciated some 15 percent even as the real/US$ exchange rate fully recovered to pre-crisis levels.

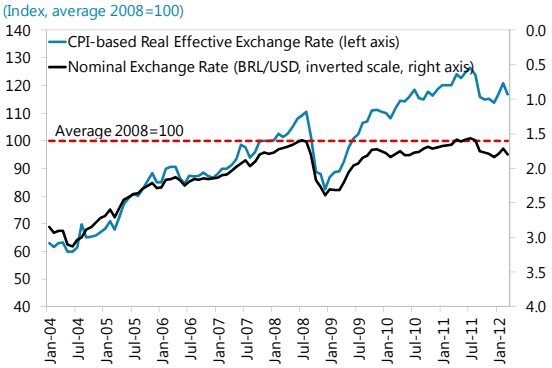
[1] Prepared by Roberto A. Perrelli.

Brazil: Changes in Industrial Production and Import Penetration, 2008-2011
(In percent)



Sources: Brazilian National Confederation of Industries (CNI); and IMF staff estimates

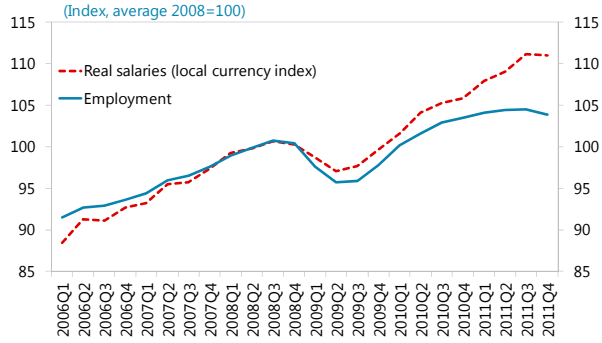
Brazil: Nominal and Real Effective Exchange Rates, 2004-2012
(Index, average 2008=100)



Sources: BCB; INS; and IMF staff estimates

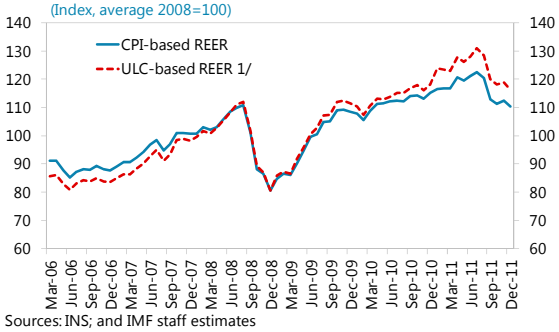
3. ***Indeed, there has been a sizable increase in relative unit labor costs in Brazil during this period.*** Unit labor costs (ULCs) in the Brazilian manufacturing sector, measured as the ratio of the wage bill to the value-added of that sector, have increased nearly 20 percent when compared to ULCs of Brazil's main trade partners. In absolute terms, the shift in Brazil's ULCs post-Lehman is explained by a rise in real average wages of almost 11 percent, and an expansion on manufacturing employment of near 5 percent that have not been matched by productivity increases. In relative terms, ULC differentials have been higher than inflation differentials between Brazil and its main trade partners—especially the advanced economies—implying an even stronger appreciation of the real exchange rate post-Lehman.[2]

Brazil: Employment and Real Salaries in the Manufacturing Sector, 2006-2011
(Index, average 2008=100)



Sources: IBGE; CNI; and IMF staff estimates

Brazil: ULC- and CPI-based Real Effective Exchange Rates, 2006-2011
(Index, average 2008=100)



Sources: INS; and IMF staff estimates
1/ Based on ULC in the manufacturing sector of Brazil's main trade partners, as provided by the OECD .

4. ***Regression analysis suggests that manufacturing performance is well explained by demand conditions and relative prices.*** In a basic linear regression model, we seek to explain the growth rate of manufacturing production (volume) as a function of a parsimonious list of indicators of domestic and external demand, and relative prices and costs:

$$\dot{IP}_t = \beta_0 + \beta_1 \dot{DD}_t + \beta_2 \dot{ED}_t + \beta_3 \dot{NEER}_t + \beta_4 \dot{ULC}_t + \varepsilon_t \qquad (1)$$

[2] Data on unit labor costs vis-à-vis Brazil's main trade partners are from the OECD OET database.

where IP is the manufacturing production index; DD is the domestic demand index; ED is the external demand index; NEER is the nominal effective exchange rate index; and ULC is the index of relative unit labor costs in the manufacturing sector.[3] This specification seeks to break down the impact of real exchange rate changes into its key components—the nominal exchange rate and a relative price variable—to assess their effects on production separately. A range of different combinations were estimated with a key variable being the nominal exchange rate interacted with a post-Lehman dummy to test for whether threshold effects of the nominal exchange rate appreciation contributed at the margin to drag on IP.[4] The key variables are generally significant with the expected sign. Indeed, the regression slopes (Text Table) can be read as elasticities; for instance, a 1 percent increase in domestic demand is associated with a ½ percent pick-up in IP. External demand has the largest effect on IP. Rising ULCs are negatively correlated with growth in IP, highlighting the need to raise productivity in tandem with wages and employment. The pre-Lehman appreciation of the nominal exchange rate is positively correlated with manufacturing growth due to the wealth effect of higher commodities prices. However, the post-Lehman exchange rate appreciation, in part reflecting strong capital inflows, has not been associated with continued IP growth.

Table: Brazil--Determinants of Manufacturing Performance, 2006-2012 1/ 2/

Dependent variable: Growth of manufacturing production (volume)

	Model	
	OLS	GMM-IV 4/
Domestic Demand	0.488	0.795
(s.e.)	*(0.216)***	*(0.471)**
External Demand	0.923	0.582
(s.e.)	*(0.357)****	*(0.469)*
Lagged NEER	0.362	0.360
(s.e.)	*(0.057)****	*(0.076)****
Lagged NEER*Post-crisis dummy 3/	-0.224	-0.233
(s.e.)	(0.072)***	(0.098)**
Lagged ULC/ULC*	-0.220	-0.258
(s.e.)	(0.061)***	(0.113)**
Constant	-0.017	-0.019
(s.e.)	*(0.005)****	*(0.008)***
Adjusted R-sq	0.89	0.88
S.E. of regression	0.01	0.01
Sum squared resid	0.01	0.01
Prob(F-statistic)	0.00	0.00

*Significant at 10 percent; **significant at 5 percent; and ***significant at 1 percent.
1/ All variables measured as logs of quarterly growth rates.
2/ Heteroscedasticity-autocorrelation consistent (HAC) standard errors reported.
3/ Post-crisis dummy equals one for periods after July 2010; and zero otherwise.
4/ Instrumental variables are the lags of the explanatory variables.

5. ***This analysis suggests that strengthening competitiveness in the manufacturing sector will require fundamental measures to boost productivity.*** In the short term, managing cyclical capital flow pressures to alleviate pressure on the exchange rate can provide some breathing room.

[3] We use monthly data since 2003. Each variable enters the regression in the form of 3-month moving average growth rates of its volume in period "t" vis-à-vis period "t-3". Domestic demand is proxied by the retail sales index. External demand is gauged by the trade-weighted average domestic demand of Brazil's main trade partners. The errors are adjusted for autocorrelation and heteroscedasticity.

[4] The model was estimated with OLS and a GMM procedure to address potential endogeneity issues.

But in the medium term, structural measures to improve labor productivity and sectoral competitiveness would be welcome. These could include steps such as improving infra-structure, reducing shipping and electricity costs, lowering the tax burden, and increasing the supply of skilled workers to match local manufacturing needs and global market standards. Indeed, further sustained gains on social and economic conditions need to be matched by improvements in productivity.

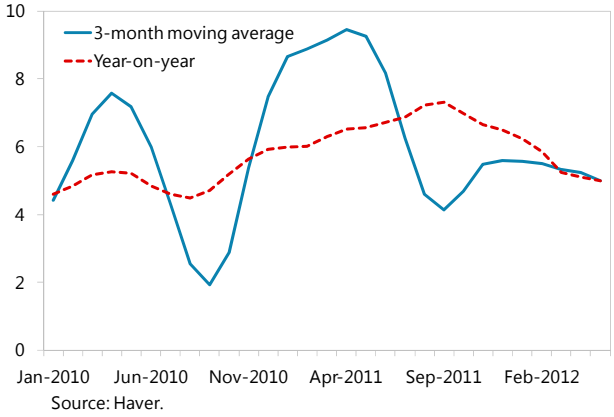
Annex II. Brazil: Growth and Inflation Outlook[1]

Pre-empting a sharper-than-anticipated slowdown in the second half of 2011, the central bank embarked on an aggressive cycle of monetary easing. Until now, other elements of the policy mix have provided space for lower policy rates—in particular, the government is anticipated to adhere to its relatively tight fiscal targets. More than sufficient stimulus is now in train to push growth back to trend by late 2012. Risks to growth and inflation are now balanced, in part reflecting deteriorating medium term inflation expectations and the potential for fiscal policy slippages. A pause in the easing cycle is now warranted and, in the absence of an adverse external shock, staff's baseline suggests that the authorities should stand ready to unwind some monetary stimulus through 2013.

1. ***The economy entered 2012 with very little momentum.*** Policymakers succeeded in moderating above-trend growth in 2011, through a combination of tight fiscal and monetary policies. Macroprudential measures, aimed at slowing credit growth, also contributed to the moderation. But a sharper slowdown in the pace of demand growth emerged during the second half of the year—in part reflecting adverse external spillovers—with real GDP expanding by an annualized 0.7 percent during this period. This has resulted in a modestly negative output gap of about ½ to 1 percent.

2. ***The slowdown has yet to translate into a material and broad easing of labor market conditions.*** The unemployment rate has continued marking record lows (since the current survey began in 2001) and currently stands at about 5½ percent. At the same time, real wage growth has been boosted by substantial increases in the minimum wage, directly but also indirectly through indexation. There are some pockets of moderation, particularly related to employment growth and hours worked in the manufacturing sector, but conditions in the service sector remain robust.

Brazil: IPCA Inflation
(percent)



Source: Haver.

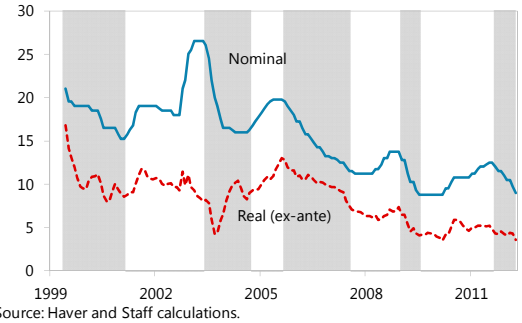
3. ***The partial unwinding of transitory supply shocks that boosted consumer prices in 2011 has resulted in a notable decline in inflation since the Q3 2011 peak.*** Inflation has fallen by more than 2 percentage points from its high in 2011 and is now about 5 percent. Tradable goods, including food and energy, have contributed most to this decline in headline inflation, in part because lower and more stable commodity prices have been passed through. The periodic re-

[1] Prepared by Shaun Roache.

weighting of the index accounts for about another ¼–½ percentage point fall in inflation. Importantly, annualized service price inflation, which is very persistent in Brazil and strongly influenced by wage growth, has remained high and has even picked up somewhat in recent months.

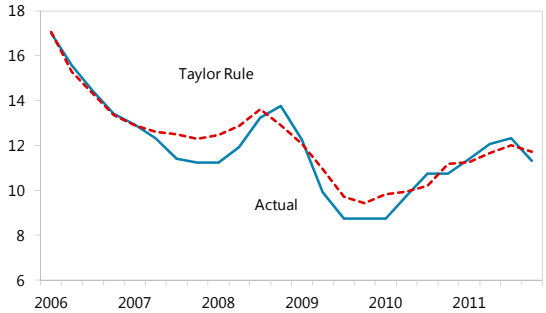
4. ***Monetary policy has responded early and aggressively to this slowdown, with the policy rate cut by a cumulative 400 basis points since August 2011.*** This response has been largely justified by subsequent growth and inflation developments. Real interest rates now stand at about 3½ percent, well below the average for the inflation targeting era. The current policy interest rates is about 50–100 basis points below the level implied by a simple Taylor Rule, although the steady trend decline in the real interest rate—which suggests a declining natural rate of interest—is a complicating factor in this type of assessment.[2]

Brazil: Policy Interest Rates, Jun-1999 to Mar-2012 1/
(percent)



Source: Haver and Staff calculations.
1/ Rate cutting cycles highlighted in gray. Real interest rates caluclated as nominal rate less IPCA inflation.

Brazil: Policy Interest Rates, Q1-2006 to Q4-2011 1/
(percent)



Source: Haver and Staff estimates.
1/ Taylor Rule using market expectations of inflation 12 months ahead.

5. ***The nominal exchange rate has depreciated by almost 30 percent since August 2011, although recent evidence suggests that pass through to inflation has weakened.*** The central bank has intervened infrequently and on a modest scale since the start of 2012 with the aim of reducing the pace and volatility of exchange rate changes. The broadening of the IOF tax may have discouraged some capital inflows and reduced appreciation pressures. The unexpectedly rapid pace of policy rate cuts together with evolving central bank guidance about rates staying low for an extended period have contributed to the weaker currency. Evidence from the early stages of the inflation targeting era suggested that exchange rate pass through to domestic consumer prices was relatively high, but more recent studies indicate that pass through has become weaker, perhaps reflecting improving central bank credibility since 2005, but also a declining share of tradables in the consumption basket.

6. ***Inflation expectations have deteriorated since the current easing cycle began.*** Surveys now indicate that inflation is anticipated to converge to the target range at a slower pace through the next five years. At the 2–3 year horizon, expectations are for inflation to remain above the target mid-range and close to its current level. The deterioration in inflation expectations has occurred since the start of the current easing cycle and in a context of slowing economic growth. This

[2] Taylor Rule estimates trend output and the equilibrium real interest rate from a HP filter on a dataset that includes WEO baseline projections through 2017. See Annex III on the neutral real interest rate.

presents a challenge for policymakers, particularly as survey-based measures appear to be fairly reliable predictors of inflation over various horizons over the last decade.[1] In contrast, breakeven rates from index-linked bonds with maturities of 5–10 years have remained within their typical trading range, although these rates do not have a good track record as predictors.[2]

7. ***Until now, other elements of the policy mix, particularly fiscal, have provided space for monetary easing.*** The government is maintaining its commitment to target a primary fiscal surplus of 3.1 percent of GDP. However, lending by public banks has picked up, and odds are there could be a further acceleration and reduction of lending rates. Macroprudential policies directly focused on domestic credit have been kept largely unchanged, but changes have been made to the capital controls regime, most recently including a progressively broader application of the IOF tax on debt inflows.

8. ***In the absence of a large adverse external shock, the substantial interest rate reduction and robust wage gains should allow growth to recover quite strongly and the output gap to close through 2012.*** Recent experience, in which shifting domestic policies have delivered pronounced cyclicality in growth, suggests that policy multipliers in Brazil are large. Indeed, earlier staff analysis finds evidence that the monetary policy transmission mechanism works efficiently in Brazil, with lower policy rates passing through completely and quickly to effective lending and deposit rates. The bank lending channel also supports the traction of monetary policy.[3]

9. ***The risks to growth and inflation through 2013 are balanced.*** There is the risk of fiscal slippages or a larger-than-anticipated transfer of resources from the government to BNDES that could further boost overall credit growth. The main downside risk stems from adverse external spillovers, particularly if global growth concerns trigger significant commodity price declines.

10. ***Upside risks are priced in to financial markets.*** Investors remain somewhat skeptical of the central bank's claim that a single-digit policy rate over a sustained period is consistent with inflation converging to target over a reasonable timeframe. The central bank has successfully engineered a lower interest rate futures curve, but policy rates are still anticipated to rise between 150–250 basis points higher over a three year horizon. A tightening cycle is priced to start in at least by early 2013 with policy rates anticipated to rise back above 10 percent by early 2014. At the same time, recent central bank guidance does appear to have increased market uncertainty about the

[1] Preliminary analysis by staff suggests that it is not possible to reject the null hypothesis that the Focus Survey measure of inflation expectations is an unbiased predictor of actual inflation over various horizons, controlling for changes in the inflation target band.

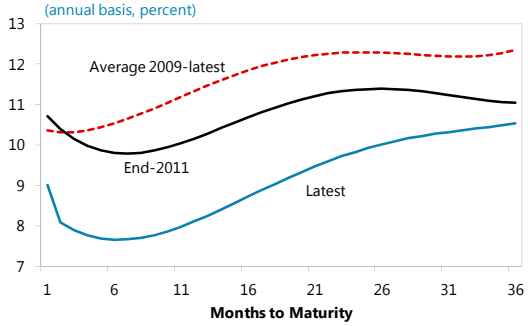
[2] A recent Central Bank of Brazil study found that the predictive content of index-linked Treasuries was poor at all but the shortest horizons. This may be due to structural supply and demand factors, including the relatively high demand for long duration assets that deliver a fixed real return by domestic and foreign institutional investors with a long investment horizon.

[3] "The Monetary Transmission Mechanism in Brazil," Selected Issues Paper for the 2011 Article IV Consultation, July 2011.

path for policy rate beyond the current easing cycle. This is evident by the steepening of the term structure of interest rate futures volatility.

Forward Interest Rates Derived from DI Futures

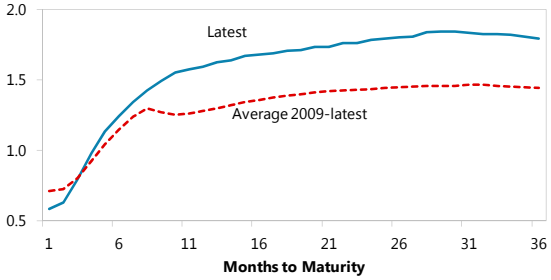
(annual basis, percent)



Source: Thomson Datastream and Staff estimates.
1/ Forward rates calculated from the DI curve. The DI underlying is the average capitalized overnight interest rate from the trade date to the date of expiry.

DI Futures Curve: Term Structure of Volatility 1/

(annual basis, percent)



Source: Thomson Datastream and Staff estimates.
1/ Estimated from a GARCH (1,1) model using the weekly change in DI interest rates at maturities up to 36 months. Limited option liquidity precludes use of implied volatility.

11. ***Monetary policy has been eased appropriately, but more caution is now justified.*** The effects of policy rate cuts will take some time to feed through to the real economy, but past experience, including 2011, suggests that the impact on growth is substantial. The prospect of lower equilibrium real interest rates may provide some incentive to keep policy rates at historically low levels, but the costs of misjudgment are high, including an erosion of Brazil's hard-earned inflation credibility at a time when inflation expectations are already elevated.

Appendix. A Small Monetary Policy Model for Brazil

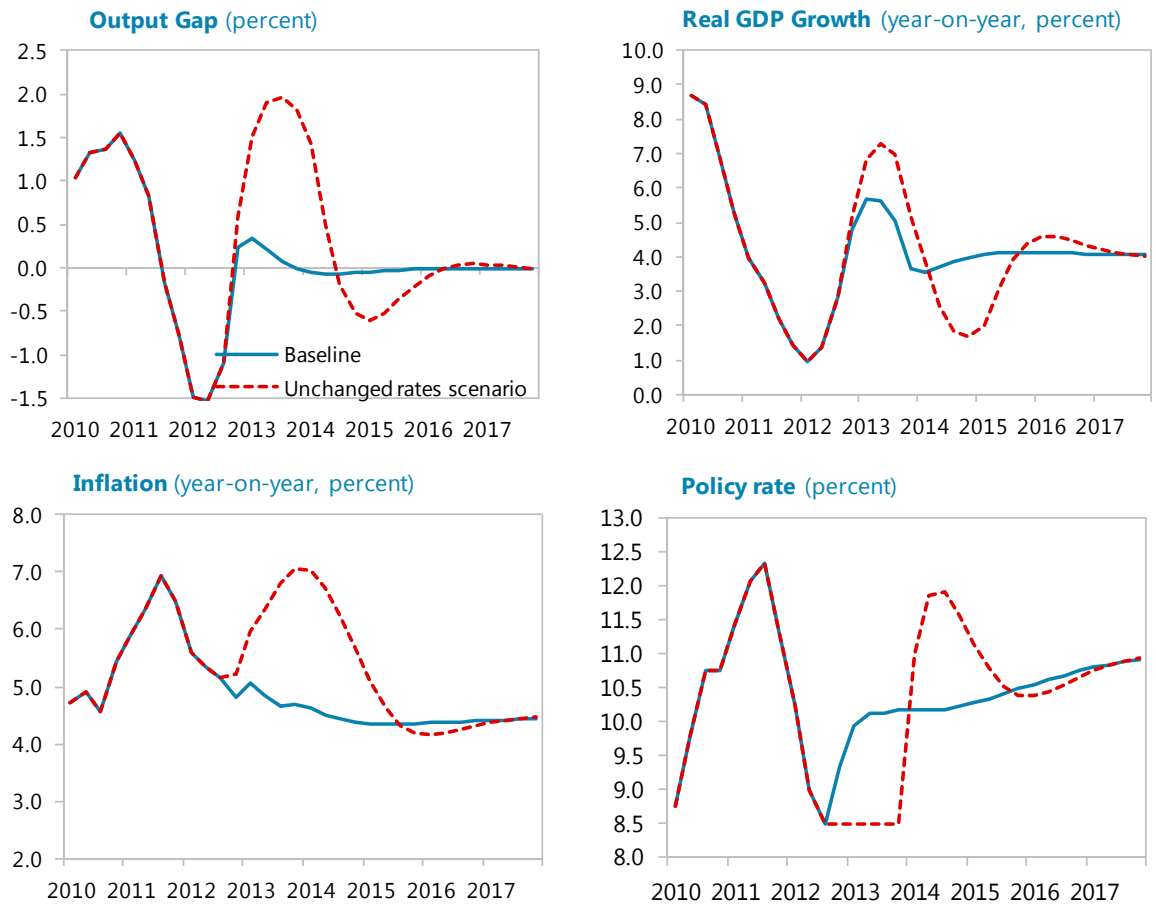
The analysis in this note is informed by a small "New Keynesian" macroeconomic model with rational expectations that has been developed and widely used in the Fund (e.g., Berg, Karam, and Laxton, 2006). The key behavioral equations in the model consist of an output gap (including a fiscal gap, foreign output gap and commodity prices), an inflation equation, an exchange rate equation (including a time-varying risk premium), a monetary policy reaction function, and a fiscal policy rule. The model is calibrated for Brazil and the monetary policy rule reflecting the reaction function of the central bank since the start of the inflation targeting era.

The fiscal policy function is based on the rule posited by Honjo and Hunt (2006) and implies that the primary fiscal balance is a function of last period's output gap and the expected deviation of debt from the target debt-to-GDP ratio in the next period. Work on the role of fiscal policy in a small Brazil model is preliminary and at this stage the coefficient on the debt gap is set to zero and the equilibrium fiscal balance (measured by the primary balance) is set to the current WEO baseline of 3.1 percent of GDP. This means that the current role of fiscal policy in the model is to provide a modest counter-cyclical impulse when output is below potential.

In the model's baseline scenario, achieving inflation convergence back to the target mid-range by end 2013 will likely require a pause in the rate-cutting cycle. The model projects the Selic interest rate rising modestly by early 2013.[4] This would be consistent with inflation converging back to the 4½ percent mid-point by the end of 2013. Importantly, this scenario is predicated on an unchanged fiscal stance. A scenario where policy rates are held at current levels through 2013 is consistent with inflation rising above the top end of the target range by end-2013.

[4] The first period of the projection from the model is Q4 2012. For Q2-Q3 2012, the Selic policy rate is assumed to be held at 8½ percent.

Figure 1. Brazil: Baseline Projection and a Low Real Rates Scenario



Source: Staff estimates.

Annex III. Brazil's Linkages and Spillovers[1]

Global spillovers to Brazil are felt through two main channels: commodity prices; and capital flows and asset prices. Spillovers from Brazil can also have large effects on the output of its nearest neighbors, both directly but also due to its amplification of global financial shocks.

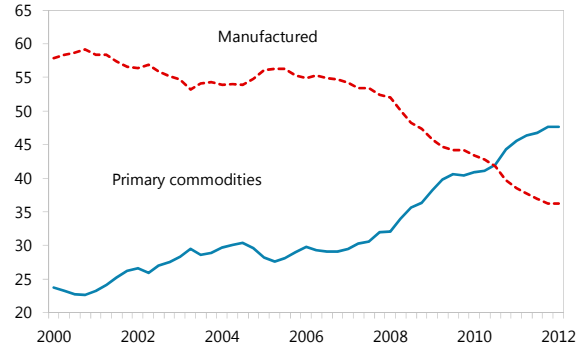
Trade

1. *Brazil's economy is less open than its emerging economy peers and diversification by trading partner has remained broadly stable.* Trade (imports plus exports) accounts for about 25 percent of Brazil's GDP, less than half of the level of G-20 emerging economies and considerably less than Latin America as a region. Diversification of Brazil's exports by trade partner has remained largely unchanged over the last decade, with the share of exports to the euro area steady at about 20 percent (comparable to other G-20 economies), while the share to China (about 15 percent) has risen mainly at the expense of the United States (10 percent).

2. *The key development for trade spillovers is Brazil's increasing concentration in commodity exports that are highly sensitive to global economic and financial conditions.* Primary commodities now account for about 45 percent of total merchandise exports, up from just over 25 percent a decade ago, while minimally processed secondary goods account for a further 14 percent. Brazil's commodity structure itself has also become more concentrated, with increased dominance of iron ore and soybean products. While some of these exports are relatively less cyclical (e.g., food), the spot price of a basket of Brazil's largest commodity exports exhibits a high correlation with global activity, particularly during large upswings and downswings. In previous cycles, commodities prices have somewhat lagged economic activity indicators. More recently, as financial investors increase their participation in commodity markets and iron ore pricing is increasingly set in the spot market (rather than in annual contracts), the price of Brazil's commodity exports have become more sensitive to the prospects for growth.

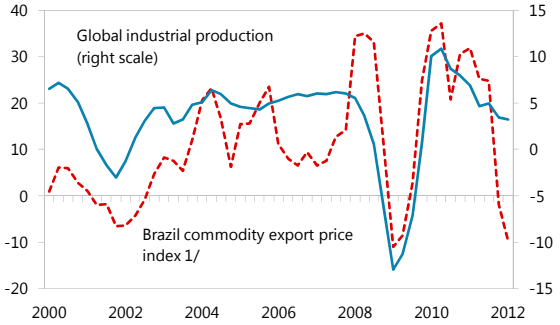
[1] Prepared by Shaun Roache and Joana Pereira.

Brazil: Merchandise Export Products
(percent of total merchandise exports)



Source: IMF Direction of Trade Statistics; staff estimates.

Brazil: Commodity Prices and Activity
(annual percent change)

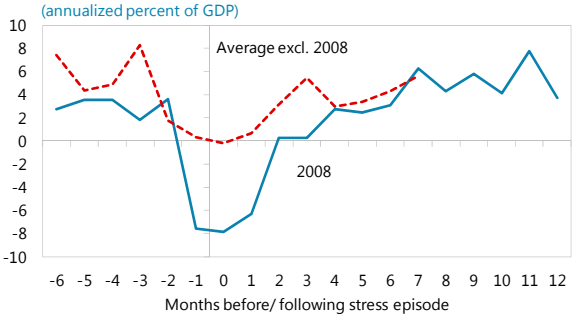


Source: Haver; Global Data Service; IMF; and staff estimates.
1/ Brazil export-weighted spot price index for largest 8 commodity exports which accounted for 30 percent of merchandise exports 2009-11

Capital Flows and Asset Prices

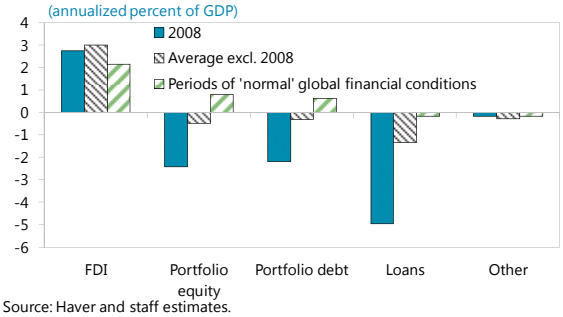
3. *Periods of heightened global financial stress often trigger sudden stops or even reversals in capital flows to Brazil.* During episodes of global stress, the reversal in net capital flows has averaged about 5 percent of GDP since 1995 (in annualized terms and excluding 2008).[2] In 2008, the capital flow reversal reached over 11 percent of GDP. The most stable form of financing is FDI—which has largely funded the current account deficits that have emerged since 2008—while portfolio debt and equity flows have typically reversed sharply during period of global financial stress. The most notable aspect about recent global spillovers is the sizable effect on lending flows. During 2008, the reversal in lending flows of about 8 percent of GDP was much larger than the average of previous global shocks and the recovery has been much weaker, underscoring the emerging key role in transmitting spillovers of the global banking system.

Brazil: Net Capital Flows During Periods of Global Financial Stress, 1995-2012 1/
(annualized percent of GDP)



Source: Haver and staff estimates.
1/ Months during which the VIX averaged more than 30.

Brazil: Net Capital Flows During Periods of Global Financial Stress, 1995-2012 1/
(annualized percent of GDP)



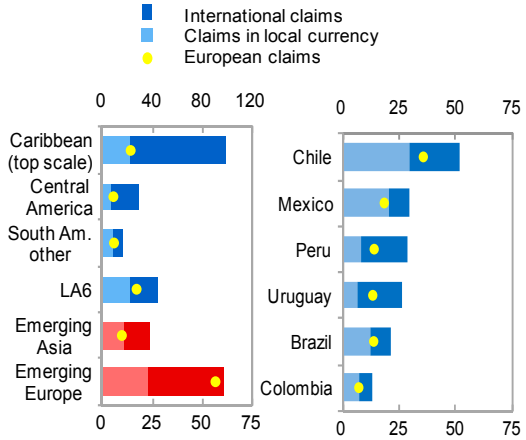
Source: Haver and staff estimates.
1/ Average of the one month before, during, and after the month during which the VIX averaged more than 30.

[2] Episodes of global financial stress are identified as months during which the VIX first averages above 30 percentage points for at least one month and include November 1997, September 1998, September 2001, September 2002, November 2008, May 2011, and September 2011. Reversals are defined as the peak net outflow relative to the average net flow during the six months prior to the stress month.

4. ***Foreign bank claims on Brazil are broadly comparable to those in other emerging economies while foreign subsidiaries are mostly funded locally, limiting spillover effects. Brazil does not stand out among its peers when assessing risks emanating from foreign banks.***[3] Claims on Brazil are only slightly higher than the average for other major emerging economies, while the known maturity structure is broadly similar (albeit with a large share of debt with an unidentified maturity).[4] Foreign bank participation is only about 20 percent of banking assets, lower than other large Latin American countries. Given the model of local funding of foreign banks in Brazil direct risks remain contained. Indirect confidence effects could have a more adverse impact, but are difficult to quantify.[5]

Foreign Bank Claims , 2011:Q3 [1]

(Percent of GDP)



Sources: Bank for International Settlements; and IMF staff calculations.

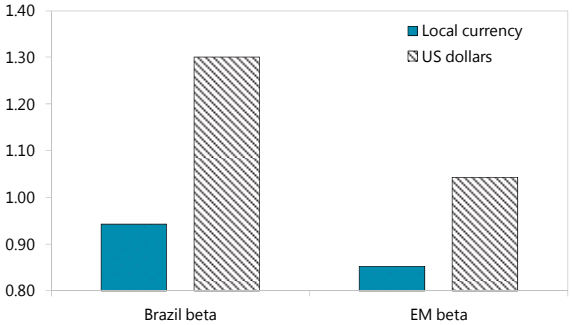
[1] Simple averages. BIS data on an immediate borrower basis as reported by the consolidated banking statistics. International claims includes cross-border claims and local claims in foreign currency. LA6 includes Brazil, Chile, Colombia, Mexico, Peru, and Uruguay. Offshore centers (Aruba, The Bahamas, Barbados, Panama) are excluded.

5. ***In a broader context, Brazil's international investment position has improved remarkably over recent years, largely due to declining external debt*** (see Annex on Brazil's external position). Brazil's net liability has almost halved over the last decade, falling by 25 percentage points to reach 28 percent of GDP at the end of 2011. This is mostly explained by a large reduction in external debt with equity-based liabilities now accounting for most of the country's liability, a development that allows Brazil to share risk more broadly and reduce its vulnerability to external financial shocks.

6. ***Notwithstanding an improved balance sheet, Brazil's financial markets remain sensitive to global financial conditions.*** Portfolio flows have moderated in recent quarters, reducing somewhat the prospects of a very large reversal in flows, but asset prices remain susceptible to spillovers. In common with other financially integrated

Brazil: Betas with the Global Equity Market 1/

(last two years of weekly price returns)



Source: Thomson Datastream.
1/ MSCI equity price indices.

[3] Assessed using claims by foreign banks, which is a different concept to external debt.

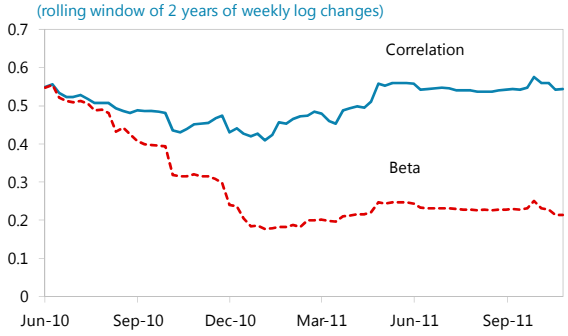
[4] Claims with a known maturity of two years and less account for about 70 percent of total claims on Brazil for which the maturity is known or allocated, compared to 65 percent for average claims on other G-20 emerging market economies.

[5] *Brazil Financial System Stability Assessment*, June 2012.

emerging markets with open capital accounts, Brazil's equity prices are now highly correlated to the global equity index and are somewhat more sensitive than the emerging markets average (i.e., the exhibit a higher beta). This effect is amplified in U.S. dollar terms by the flexible exchange rate and the tendency for the real to depreciate as global risk aversion rises (and equity prices fall). Even though these price changes may not be due entirely to capital flows, they nonetheless can have important real effects. Equity prices can affect domestic confidence, incentives to invest (e.g., due to Tobin's Q and cost of capital considerations), and domestic wealth.

7. ***Sovereign CDS spillovers could affect external financing conditions for Brazil's government and companies.*** CDS correlations remain steady and high—notably to the euro area—although betas have declined significantly, indicating that Brazil's CDS has recently been much more stable than those of advanced economies experiencing severe stress during periods of risk aversion and rising spreads. In other words, while Brazil's CDS often moves in the same direction as those in the euro area, the size of those moves is substantially smaller.

Brazil: Sovereign CDS Correlation and Beta to the Euro Area
(rolling window of 2 years of weekly log changes)

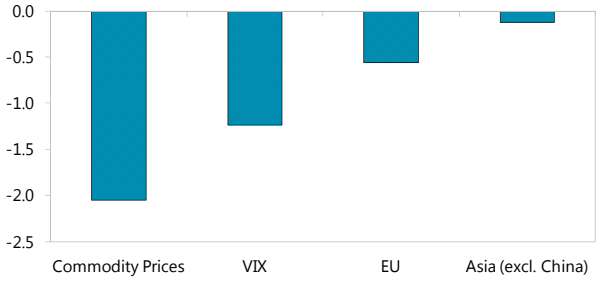


Source: Thomson Datastream.

Overall inward spillovers

8. ***Empirical analysis confirms that commodity prices and financial conditions are the key spillover channels to Brazil.*** Staff assessed the broad impact of external factors on Brazil's output growth using a quarterly VAR model from 2000–11 and seven endogenous variables, including: the VIX index; the Commodity Research Bureau's commodity price index (CRB); non-U.S./China external demand (European Union and remaining Asia's real GDP growth); Brazil's real effective exchange rate and Brazil's real GDP growth. The results indicate that the direct effect of a growth shock in trading partners is relatively limited. In contrast, shocks that involve substantial declines in commodity prices or an increase

Impact of Global Shocks on Brazil Growth 1/
(percentage points)



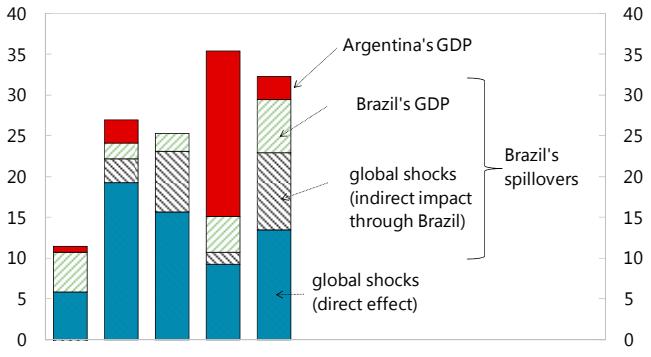
Source: Staff estimates
1/ The shock to the Commodity Prices represents a 20% fall over one year. The shock to the VIX is calibrated as a 10 points increase over one year. The shocks to the EU and Asian growth are of 1% over one year.

in risk aversion (and a broad tightening in financial conditions) have meaningful effects on output in Brazil.[6]

Outward spillovers

9. ***Brazil's direct growth spillovers to the region are significant and, indirectly, can amplify the effect of global financial shocks.*** Spillovers from Brazil affect mainly the Southern Cone countries (Argentina, Bolivia, Chile, Paraguay, and Uruguay) which have relatively high trade exposures to Brazil, ranging from about 20 to 40 percent of total exports. Staff analysis finds that Brazil-specific output shocks are transmitted rapidly, with the effects typically felt during the same quarter, albeit to varying degrees across countries.[7] A second spillover channel is through the Brazil's amplification of global shocks, particularly those of a financial nature. Empirical evidence suggests that sharp changes in external financial conditions that affect Brazil's output have a knock-on effect on its less globally financially integrated neighbors.

Fraction of GDP Variance Explained by External Factors 1/
(Percent)



Sources: Source: IMF staff calculations.
1/ For a horizon of eight quarters.

[6] Annual shocks to external variables were modeled as 4 consecutive quarterly shocks of equal magnitude. The impact on Brazil's real growth is the resulting accumulated impact over one year (starting from the first quarterly shock).

[7] "Spillovers from Large Neighbors in Latin America," Chapter 4, Western Hemisphere Regional Economic Outlook, April 2012.

Annex IV. The Neutral Real Interest Rate in Brazil[1]

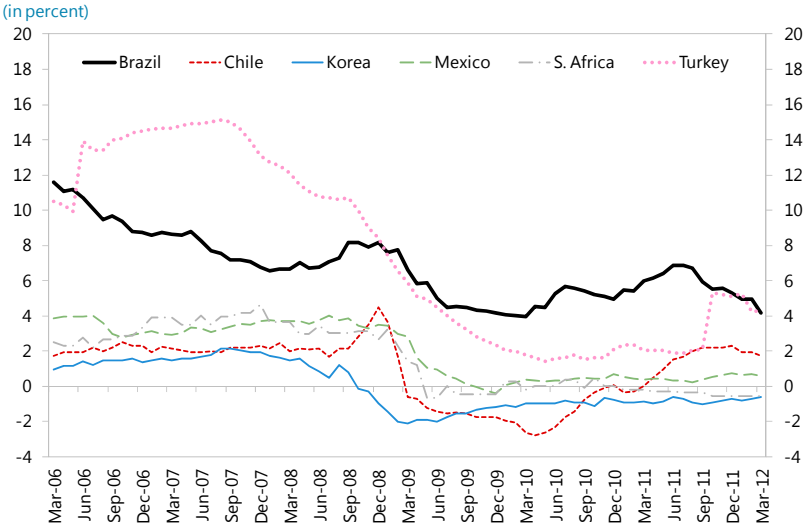
Real interest rates in Brazil have declined significantly over the past decade. This note presents some empirical analysis assessing these trends and what they may mean for changes in neutral interest rates in Brazil.[2] The analysis suggests that Brazil's real neutral interest rate has trended down. However, uncertainty about its level remains high, in part reflecting the mixed inflation performance during this period.

1. ***Real interest rates in Brazil have declined substantially over the past decade.*** Real short term interest rates (RIR) reached 17 percent during the currency and confidence crisis of 2002–2003. Since then a strong track record of performance on macroeconomic stabilization, underpinned by the successful inflation targeting framework and fiscal rule, has ensued. Real interest rates have trended down in this process, reaching about 4–4½ percent currently.

2. ***Notwithstanding this decline, RIR's in Brazil remain well above international comparators.*** Large emerging market economies that adopt inflation target regimes have succeeded on achieving real interest rates below 2 percent—or less than half of Brazil's current level (Text Chart). Previous staff analysis (Segura-Ubiergo, 2012) shows that this reflects, in part, the relatively low levels of savings in Brazil and credit market distortions, among other factors.

Emerging Markets: Policy Rates Deflated by Expected Inflation, 2006-2012

(in percent)



Sources: Haver; and IMF staff estimates

3. ***As a first step to form a view on the level of the neutral RIR (NRIR), we calibrate simple consumption-based models using basic parameters from Brazil.*** Using a constant relative risk aversion utility function (CRRA), we calibrate Brazil's NRIR for a range of parameters reflecting consumer's inter-temporal preferences ("beta"), relative risk aversion ("gamma"), and habit persistence ("theta"). The solution for the consumer's utility optimization problem yields first-order

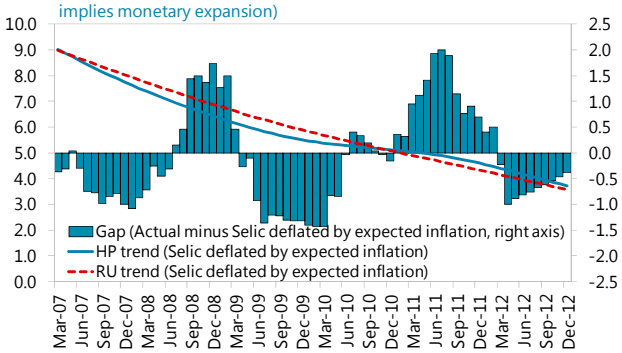
[1] Prepared by Roberto A. Perrelli.

[2] Indeed, the Central Banks' surveys of market analysts regarding the level of the neutral real interest rate in Brazil show that their estimates have come down over the past two years from 6¾ percent to 5½ percent per a survey conducted in the first quarter.

conditions that imply linear positive relationship between the NRIR and per capita GDP growth—higher per capita GDP growth implies a higher NRIR.[3] On the other hand, there is a negative relationship between the NRIR and the coefficient of relative risk aversion. In several cross-country studies, these first-order conditions explain why NRIR's in advanced economies are often lower than in emerging markets. In the case of Brazil, the average growth of per capita income since 2006 is 2.7 percent per annum. For a range of parameters typically found in the literature, the exercise suggests an NRIR in the 4–8 percent range (Text Table). Several studies show that the results from the basic CRRA specification overestimate the NRIR due to difficulties in capturing habit persistence in the behavior of consumers (see estimates for Chile by Fuentes and Gredig, 2008). An alternative model, which controls for habit persistence, suggests an NRIR in the 3–6 percent range (Text Table).[4]

Brazil: Filter-based Real Interest Rates and Gap Estimates, 2007-2012

(Difference between actual and neutral rate, in basis points; negative implies monetary expansion)



Sources: BCB; and IMF staff estimates

$$\ln(1+NRIR) = -\ln(\beta) + \gamma E_t(g) - \tfrac{1}{2}\,\gamma^2 Var_t(g) \qquad (1)$$

$$\ln(1+NRIR) = -\ln(\beta) + \gamma E_t(g) - \tfrac{1}{2}\gamma(1-\theta) \qquad (2)$$

Brazil: NRIR from consumption model, 2006-11

	\gamma			
\beta	1.0	1.5	2.0	*Avg*
0.970	5.7	7.1	8.4	*7.1*
0.975	5.2	6.6	7.9	*6.6*
0.980	4.7	6.0	7.4	*6.0*
0.985	4.2	5.5	6.9	*5.5*
0.990	3.7	5.0	6.4	*5.0*
Avg	*4.7*	*6.0*	*7.4*	***6.0***

Per capita growth (2006-11):	2.7%
Std dev of pc growth (2006-11):	0.1%

Brazil: NRIR from consumption with habit, 2006-11

	\gamma			
\beta	1.0	1.5	2.0	*Avg*
0.970	4.7	5.6	6.4	*5.6*
0.975	4.2	5.1	5.9	*5.1*
0.980	3.7	4.5	5.4	*4.5*
0.985	3.2	4.0	4.9	*4.0*
0.990	2.7	3.5	4.4	*3.5*
Avg	*3.7*	*4.5*	*5.4*	***4.5***

Per capita growth (2006-11):	2.7%
Coefficient of habit formation:	0.98

4. ***Using a range of filtering techniques demonstrates the clear downward trend in RIR's.*** Standard filtering techniques (e.g. Hodrick-Prescott, Ravn-Uhlig, Baxter-King, and Christiano-

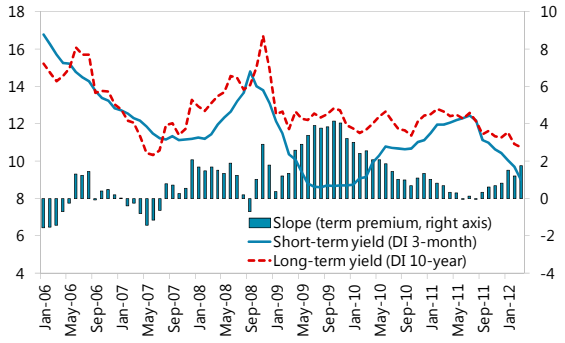
[3] The first order condition for the CRRA without and with habit persistence are given by, respectively.

[4] We also estimate that, if Brazil's per capita GDP grows 1 percentage point faster than in the recent period, then the coefficient of relative risk aversion would have to drop by 0.5 percentage points to match the NRIR in this exercise.

Fitzgerald filters) are useful for disentangling cyclical features of the real interest rate from its secular trend. We apply such filters to the policy rate (Selic) deflated by markets' expected inflation (12-month ahead) as well as to the Selic deflated by the mid-point of the inflation target (4½ percent). These filtered RIR levels currently range between 4–6 percent, with the higher bound derived from the use of the BCB's inflation target to construct the implied real rate. The gap between current levels of the RIR and its trend value, adding in 12-month ahead inflation expectations, is about 100 bps. (Text Chart).

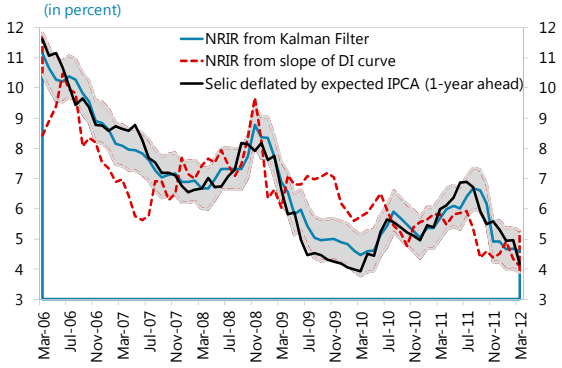
5. ***An approach based on the evolution of the average yield curve slope also shows a downward trend of the implied NRIR in Brazil.*** In well-anchored inflation targeting regimes, the slope of the yield curve reflects mostly the term premium. Moreover, when computed over a sufficiently long horizon and between cyclically-equivalent end-points, the average term premium can be considered neutral with respect to the business cycle (see Basdevant et al, 2004). Yields on Brazil's long-term financial instruments have generally declined in tandem with yields on short-term instruments. As such, the average term premium in Brazil since 2006 has been around 100 basis points, while the term premium stood at 165 basis points by end-March 2012 (Text Chart below left). In this framework, a proxy for the NRIR can be backed out by adding the excess term premium (i.e. the actual term premium less its historical average, or 65 basis points as of end-March) to the real short-term interest rate (3½ percent as of end-March). This approach, suggests that the NRIR is currently at about 4 percent.

Brazil: Slope of the Yield Curve, 2006-2012
(In percent; left axis unless specified otherwise)



Sources: Haver; Datastream; and IMF staff estimates

Brazil: Neutral Real Interest Rate, 2006-2012
(in percent)



Sources: BCB; Haver' and IMF staff estimates

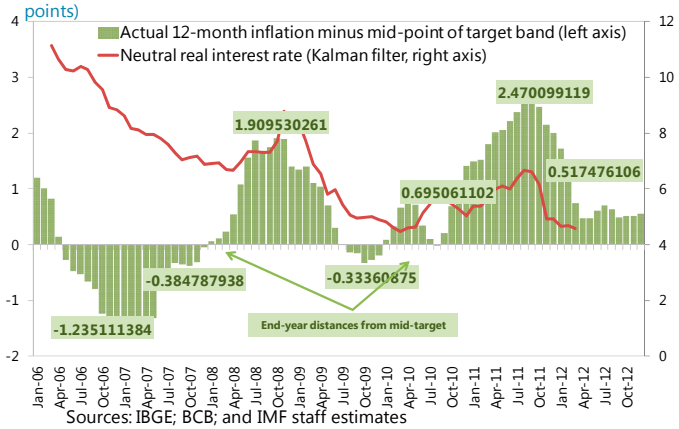
6. ***State space models also show a trend decline in RIR's in Brazil.*** In such models, the neutral real interest can be interpreted as the unobservable common factor in the short- and long-term rates after controlling for inflation expectations and other cyclical componets of the yield curve (see Laubach and Williams, 2003). Using data up to end-March, these models suggest an NRIR of around 4¾ percent, with a ±75 basis points confidence interval (Text Chart above right). These estimates are consistent with most of the other methods presented above.

7. ***The analysis arising from these methods is however subject to important caveats.*** A common assumption in inferring the unobserved NRIR from the observed RIR is that inflation is

well-anchored. While the credibility of the framework has generally been increasing in Brazil over the past years, inflation outcomes have been more mixed. With regards the using yield curve data, this relies heavily on the identification of cyclically neutral positions to anchor the average term premium computation, which is hard to demonstrate in emerging markets such as Brazil, given the limited experience with cycles under inflation targeting. Moreover, there is a certain circularity to this approach as the term structure can also in principle be interpreted as an indication of market expectations as to future monetary policy decisions.

Brazil: Inflation Gap, 2006-2012

(Actual 12-month inflation minus mid-point of target band, in percentage points)



Sources: IBGE; BCB; and IMF staff estimates

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Annex V. Budget Rigidities in Brazil[1]

1. *Budget rigidities appear to be behind the rapid increase of government spending in Brazil.* Since 2005, real primary spending has increased 7 percent on average—mostly on current spending—surpassing GDP growth (Figure 1, Panel a). As a result, Brazil has now one of the highest spending-to-GDP ratios among emerging markets (Figure 1 panel b). Budget rigidities in the form of revenue earmarking and mandatory allocations account for 90 percent of this spending[2]:

- *Revenue earmarking*. Revenues from all sources are to some extent earmarked with the main focus being on social sectors (education, health care, housing, and social benefits). In particular, the Constitution establishes that at least 25 percent of tax revenue at all levels of governments be allocated to education, and 12 and 15 percent of the states' and municipalities' tax revenues are earmarked to the provision of health care services (OECD, 2011). To increase flexibility, an arrangement for withholding federal earmarked revenues (Desvinculação das Receitas da União, DRU) has been extended until 2015. Accordingly, 20 per cent of federal revenues (net of intergovernmental transfers), are withheld by the federal government, thereby reducing the extent of earmarking.

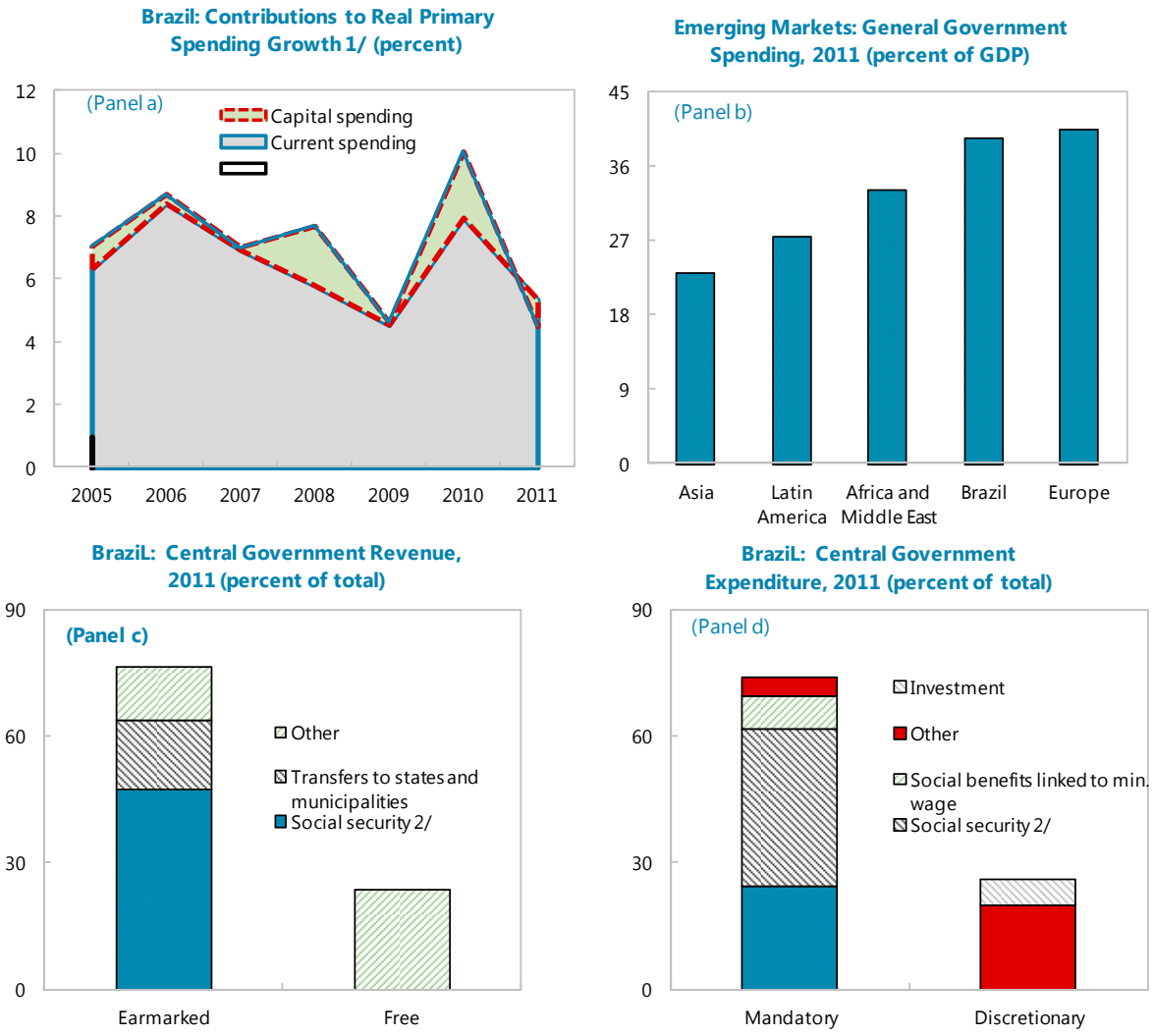
- *Mandatory spending*. The Brazilian Constitution guarantees the funding of three types of government expenditure: revenue sharing with states and municipalities; salaries and pension for government employees, and interest on and repayment of the public debt. At the same time, social security spending is mandated with pressures mounting as a result of the indexation of minimum pensions to the minimum wage. In addition, Congress has in recent years designated several other expenditure programs as "mandatory" in the Budget Guidance Law in order to protect them from cuts in the presidential budget implementation decrees. Thus, mandatory spending (at the federal level) now accounts for ¾ of total spending (Figure 1, Panel d).

2. *These rigidities introduce important distortions in fiscal management and reduce the space for investment.* First, rigidities discourage efficiency gains by perpetuating budget allocations on the basis of historical spending and leave limited space for reallocation in response to changing needs. This is illustrated by Brazil's difficulty in increasing public investment which, at 2½ percent of GDP, is less than half the average of other emerging markets. Second, these rigidities affect the quality of fiscal adjustment with retrenchment in spending falling just on a subset of budget items. For example, a large part of the slowdown in primary spending in 2011 came on the back of discretionary spending which decreased ¾ percent in real terms at the federal level. Finally, budget rigidities have contributed to procyclical spending with revenue windfalls being spent as a result of earmarking. This trend in spending, however, might be difficult to reverse in case of an economic slowdown.

[1] Prepared by Marialuz Moreno Badia.

[2] For more details, see Alier and Costa (2005) and Weisman and Blanco (2006).

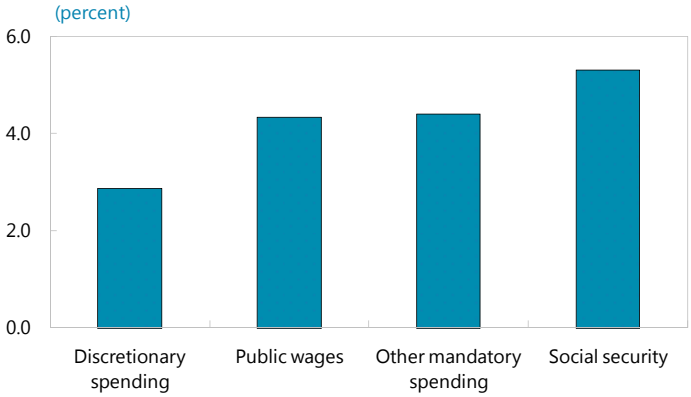
Figure 1. Brazil: Spending and Budget Rigidities



Sources: Ministry of Finance; Ministry of Development; IMF, *World Economic Outlook*; and staff's calculations.
1/ Primary spending growth in 2010 excludes Petrobras recapitalization.

3. *Without significant reform, spending priorities may be difficult to implement in the future.* For illustrative purposes, we simulate the central government's spending path over the next five years (Figure 2, Table 1). We assume: (1) the primary surplus is maintained at its current level (2.2 percent of GDP); (2) revenue elasticity is one[3]; (3) transfers to subnational governments as percent of revenue remain constant at the 2011 level; (4) public wages increase with nominal GDP; and (5) pensions and social benefits evolve according to the projected increases in the minimum wage and inflation.[4] Under these assumptions, discretionary spending could only increase by 2.9 percent in real terms per annum compared to average growth rates of 8.1 percent over the last decade. This means that discretionary spending in percent of GDP would have to decline by 0.5 percentage points. As 60 percent of discretionary spending is related to social programs that are priority for the government (for example, Minha casa, Minha Vida), this leaves little room for public investment. For example, if current discretionary spending was to remain constant in percent of GDP during 2012–17, capital spending would have to decline by 1.7 percent in real terms.

Figure 2. Brazil: Simulated Real Spending Growth, 2012-2017 1/



Sources: Ministry of Finance; and staff's calculations.
1/ Spending refers to the central government. Growth rates are the average over the 2012-2017 period.

4. *Reducing budgetary rigidities will therefore be key for freeing up space for other priority spending, including investment. Options here could include:*

- *Rationalization of mandatory spending and revenue flexibilization* in combination with more effective medium-term planning and rolling multi-year budget plans. A possibility would be to introduce a mechanism to de-earmark the marginal tax gains stemming from nominal output growth—i.e. stabilize earmarks at their current nominal levels. Increasing the rate of the DRU, on the other hand, is unlikely to yield much in the near term as most of the revenues de-earmarked by the DRU finance mandatory expenditures anyway. Once earmarking has been reduced, it would also be possible to consider introducing expenditure growth ceilings, as has been the case in many other countries (for example in Sweden where the government proposes a ceiling for central government and old-age pension expenditures for the next three years). In fact, the government is already considering a 2.5 percent per year ceiling for the increase in real terms of

[3] Brazil's fiscal revenues have risen steadily during the last decade. However, given the already high revenue-to-GDP ratio in comparison with other emerging markets, we assume there is no further increase in the tax burden.

[4] Law 12.382 (2011) established that the minimum wage over the period 2012–2015 would be adjusted by the sum of the average real GDP growth over the latest two years and most recent year-on-year CPI inflation. For the purpose of this simulation, we assume the rule applies throughout 2017.

payrolls and charges in the federal sector. Finally, an additional important option would be delinking pension growth from the minimum wage as this adds to the existing downward rigidities in public spending and contributes to the projected rapid rise in pension outlays.

- *Strengthening the costing, monitoring, and evaluation of public spending with a view to increasing its efficiency*. An option would be to develop a system of "pilot evaluation programs" to assess the efficiency of public expenditures in particular projects/programs. This would help determine whether programs in key sectors (especially health and education) are in line with their intended objectives and whether modifications are needed to improve results and cost-effectiveness.

Table 1. Brazil: Assumptions for Simulation 1/

	2001-11	2012-17
Real GDP growth	3.6	3.9
Inflation	6.7	4.7
Minimum wage real growth	5.4	4.4
Central government primary surplus (percent of GDP)	2.2	2.2
Revenue real growth	7.0	4.3
Mandatory spending real growth 2/	6.4	4.8
Discretionary spending real growth 3/	8.1	2.9
Memo item:		
Increase in NFPS revenue (percent of GDP)	2.3	0.0

Sources: Ministry of Finance; and staff's calculations.

1/ Numbers are averages over the period indicated.

2/ Mandatory spending refers to the central government. It excludes transfers to subnational governments

3/ Discretionary spending refers to the central government.

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Annex VI. Brazil's External Sector Assessment[1]

The staff assess that Brazil's current account deficit is somewhat below a range of estimates for its medium-term norm and the exchange rate is somewhat above levels that can be explained by underlying fundamentals and appropriate policy settings. Further efforts to increase savings and investment would help address these imbalances. Options include continuing with pension reform and shifting the structure of public spending away from consumption towards investment. It will be important to maintain a macro policy mix that moderates demand and facilitates rebalancing. Capital flow management measures (CFMs) can be used in the transition to help manage volatile capital flows.

Current Account

1. ***Despite large terms of trade gains Brazil's current account has swung into deficit over the last years*** (Panel 1). Strong domestic demand and the appreciating exchange rate have supported rapid growth in import volumes—which more than doubled since 2004—while export volumes have remained broadly flat. Booming commodity prices have helped containing the current account deficit. As an illustration of the impact of commodity prices, were the terms of trade to return to their 2005 level Brazil's current account deficit would have reached 4½ percent of GDP in 2011 (compared with the actual 2.1 percent of GDP).

2. ***The observed worsening of the current account balance largely reflects a pick-up in the investment-to-GDP ratio, while the saving rate has remained low.*** The challenge to Brazil's external sector outlook—from a saving-investment perspective—is that both private and public savings are relatively low compared with other emerging economies. Increasing domestic saving would help preventing further deterioration in external balances over the medium term. Policy measures that could help here include supporting private savings through further steps to reform the pension system and slow the rate of growth of public consumption, and capital market reforms, among others.

3. ***With unchanged policies, and at the current level of the real exchange rate, the current account deficit is expected to widen further over the medium term to over 3 percent of GDP.*** This outlook is predicated on continued buoyant growth in imports and—consistent with the medium term outlook underlying the current World Economic Outlook—some gradual worsening in the terms of trade, and moderating external demand for Brazilian exports. The on-going development of Brazil's off-shore ("pre-sal") oil potential, however, introduces a considerable uncertainty to these projections.[2] Based on the staff's current estimates, the oil balance—oil exports

[1] Prepared by Anna Ter-Martirosyan and Shaun Roache.

[2] This is related to uncertainty over the potential size of Brazil's oil reserves, the timing for the start of production in new fields, the required investment levels, and potential near-term capacity constraints.

net of direct oil imports and imports of capital goods related to the oil sector—is expected to improve by one percentage point of GDP from 2011 to 2017. By 2020, net oil exports are projected to increase to almost 3 million barrels per day, and all else equal, would reduce the current account deficit further by an additional one percentage point of GDP. These developments—if not offset by higher imports—would tend towards helping close the estimated current account and exchange rate gaps (see section C) in the long run.

Exchange rate and relative prices

4. ***The real exchange rate appreciated over the last decade, though there has been some reversal in recent months.*** It rose by almost 90 percent between 2004 and mid-2011, but has since depreciated by about 12 percent through May 2012 (Panel 2). However, the real effective exchange rate (REER) remains above long-term average levels (e.g. as of end-May 2012, it was about 20 percent above its 10-year average). Most of the movements in the REER were due to nominal exchange rate changes. Over the last years two factors have played a key role in driving exchange rate strength: terms of trade gains and strong capital flows. Brazil's terms of trade have increased about 30 percent since 2004, although there has been some reversal since late 2011, reflecting the decline in some commodity prices. Meanwhile overall capital flows averaged about 4 percent of GDP during 2009–11, although there has been a shift in composition away from portfolio to foreign direct investment flows.

5. ***The price level in Brazil is considerably higher than in other countries with a similar level of development.*** In 2011, the PPP-adjusted prices of Brazilian goods—the relative cost in dollars of equivalent consumption baskets in Brazil and the United States (Panel 2, lower left chart)—exceeded unity, implying that similar goods are more expensive in Brazil than in the U.S. Indeed, going forward, given expected inflation differentials and assuming a constant nominal exchange rate, the price level in Brazil prices would further diverge from the range that could be expected in an economy with a similar level of development.[3]

Model based current account and exchange rate valuations

6. ***Model based estimates also suggest that the current account deficit is somewhat above its medium-term norm and that the real exchange rate is on the strong side.*** The staff's analysis suggests that a structural current account deficit of about 1 percent of GDP over the medium term and real exchange rate depreciation of about 5–15 percent would be consistent with fundamentals and desirable policy settings.

- The IMF's new External Balance Approach (both adjusted and unadjusted for policy gaps) as well as the traditional CGER approach, suggest norms for the medium term current account deficit in Brazil of between ½ to 1½ percent of GDP. These estimates are presented in the attached table.

[3] This exercise assumes that the cross-section of international PPP prices in 2005–09 represents "equilibrium" price levels that remain stable over time.

However, it is critical to note that they could understate norms given upside uncertainty on oil production and export prospects.

- The estimates for real exchange rate misalignment are similar across the EBA RER and CGER approaches, indicating an overvaluation in the 13 to 20 percent range relative to current and medium term fundamentals. However, the recent depreciation of the real exchange rate relative to the reference assessment period would reduce the estimated misalignment by about 7 percent.

Current Account and REER Gaps 1/

	EBA Methodologies (2011) 2/		CGER methodologies (2017) 3/		
	CA Regression	RER Regression	MB	ERER	ES
CA Norm (% GDP)	-0.4 - (-1.5)	...	-1.2	...	-1.1
CA Gap (% GDP)	-1.3 - (-0.2)	...	-2.1	...	-2.2
Exchange rate gap	2 - 11	18	20	13	17
Memorandum items (percent of GDP, unless otherwise noted):					
Change in REER relative to the reference period (%) 4/					7
Actual CA/Y (2011)					-2.1
Cyclically Adjusted CA/Y (2011)					-1.7
Medium term CA/Y (2017)					-3.3

1/ For REER, positive values indicate overvaluation. The estimated gaps are adjusted to impose a multilateral consistency.

2/ The first number for CA Norm (CA regression) is reported for unchanged policies, and the number in parenthesis is for desired policies, both gaps are relative to the cyclically adjusted value. If the policy gaps are closed in Brazil and its trading partners, the current account gap would decline and the current account norm widen as the scope of policy improvement is larger for trading partners. The exchange rate gap (RER regression) corresponds to a difference between the actual level of RER and RER under recommended policies.

3/ The macroeconomic balance (MB) approach calculates the difference between the medium term CA balance and an estimated equilibrium CA "norm". The latter is a function of various fundamentals (fiscal balance, old-age dependency ratio, NFA, oil balance, real GDP per capita, and real GDP growth). The ERER is estimated as a function of medium-term fundamentals (NFA, relative productivity differentials, the terms of trade, and trade restrictions). The ES approach calculates the difference between the actual CA balance and the NFA-stabilizing CA balance. The real exchange rate adjustment is calculated to bring the current account balance in line with its NFA-stabilizing level.

4/ Reflects the change in the real exchange rate from its average-2011 level to May 2012.

Capital account flows, international reserves and international investment position

7. ***In recent years Brazil has attracted sizable capital inflows that have helped to finance the current account deficit and contributed to the exchange rate appreciation*** (Panel 3). The bulk of capital flows have comprised FDI which have more than financed the widening current account deficit. Net portfolio flows have been more volatile, increasing markedly following the global crisis, especially during 2010–11Q1, but tapering off since then. Brazil has offered international investors large differentials in terms of growth prospects and interest rates that have attracted substantial flows in a context of extraordinarily easy monetary policy in the advanced economies. These flows had added to appreciation pressure on the real in the current global cycle.

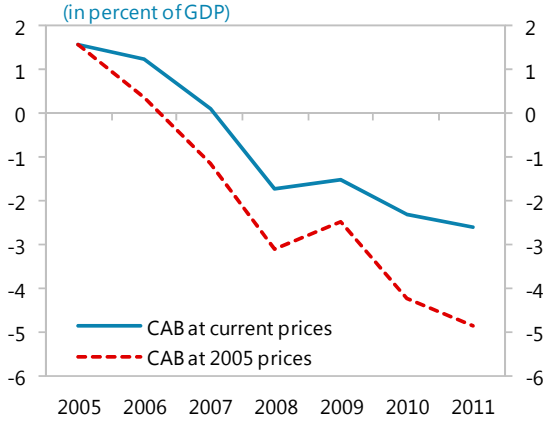
8. ***The full range of policy tools has been deployed to manage large capital flows pressures.*** Since 2010, CFMs have been applied to moderate flows and influence their composition. While these measures have been effective in slowing the pace of cyclical flows, their effects tend to attenuate through time and periodic adjustments have been necessary. Portfolio flows moderated in 2011, responding to CFMs and global market conditions, but external borrowing picked up, surging in early 2012 on back of low global rates. In response to this, further adjustments were made to the CFM framework to provide disincentives for short-term borrowing flows (by raising the duration limit on foreign borrowing to be exempt from the IOF from 2 to 5 years). More broadly, the CFM framework has appropriately been managed in a counter-cyclical manner. For example, when capital flow pressures have diminished, the framework has been eased.

9. ***Central bank intervention has focused on seeking to reduce the pace and volatility of exchange rate changes.*** With the moderation of external inflows, the pace of accumulation of external reserves has slowed down since mid-2011. International reserves have stabilized around US$370 billion, levels which are more than adequate with respect to various metrics, including the IMF's composite adequacy measure. As such, Brazil is well placed to withstand various external shocks, though further reserve accumulation may take place in the context of managing cyclical capital flows.

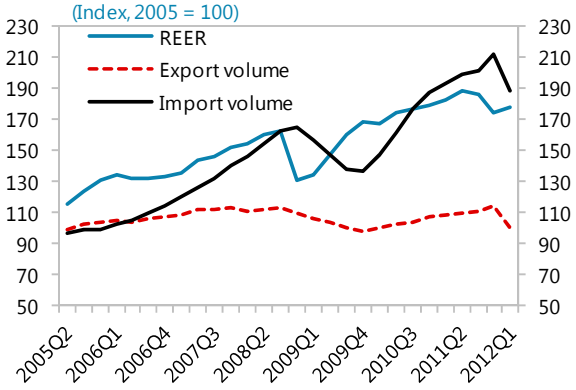
10. ***Brazil's net foreign asset (NFA) position and its composition have improved.*** The NFA position has improved from -45 percent of GDP in 2003 to -20 percent of GDP in 2011. FDI liabilities account for more than one-third of total liabilities. Moreover, Brazil's NFA position and external debt levels are relatively low compared with other emerging market economies. However, with the projected widening in the current account deficit in the baseline at unchanged real exchange rates, the NFA position would worsen over the medium. Nonetheless, the composition of financing in such a circumstance would be expected to remain mainly FDI with external debt rising only slightly from 13 percent of GDP in 2011 to 15 percent of GDP by 2017. In the longer run, as Brazil's large pre-sal oil reserves come on line, added efforts to increase savings and therefore strengthen the country's external NFA position would be appropriate.

Figure 1: Current Account Developments

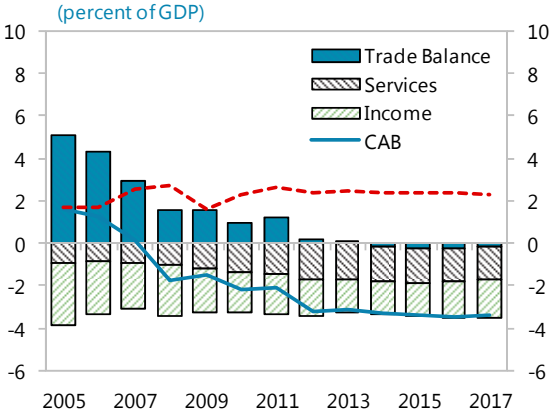
Current Account Balance at 2005 Prices
(in percent of GDP)



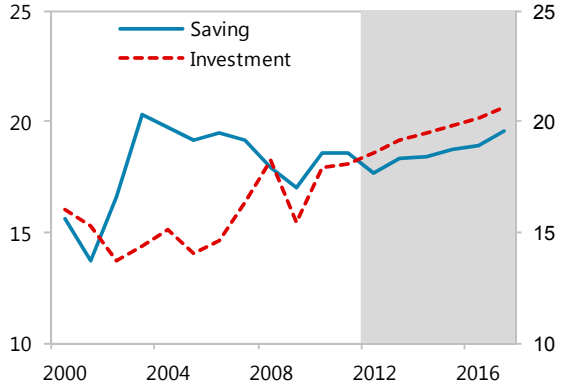
Real Exchange Rate, Import Volume and Export Volume
(Index, 2005 = 100)



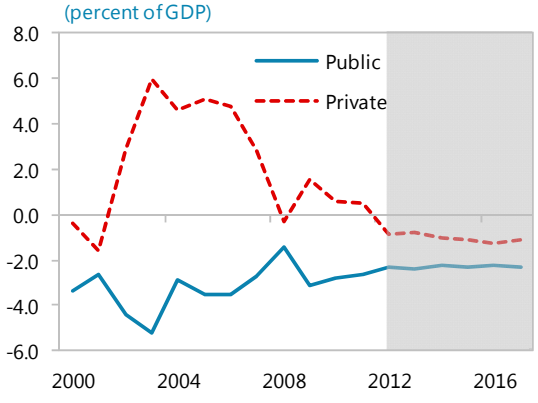
Current Account Flows
(percent of GDP)



Private Saving and Investment, 2000-2017
(percent of GDP)



Brazil: Saving-Investment Balances, 2000-2017
(percent of GDP)



Brazil and the G-20: Saving, 2007-2011
(percent of GDP, unweighted average)

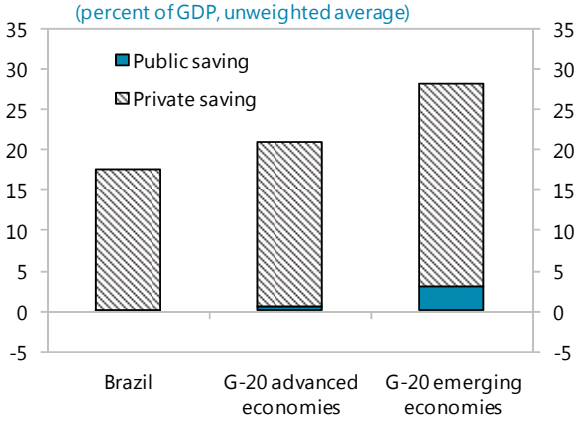
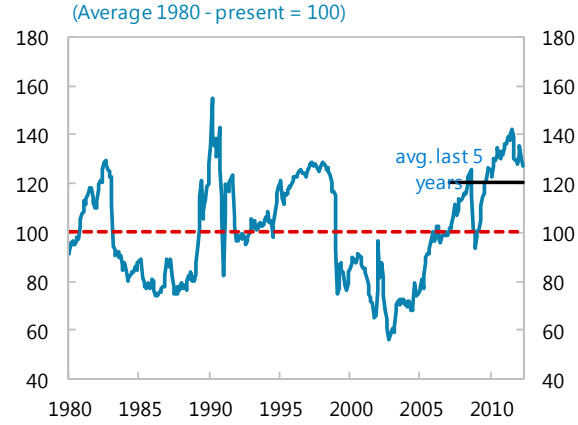
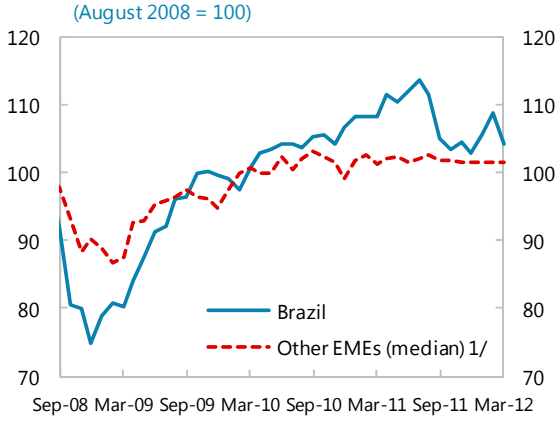
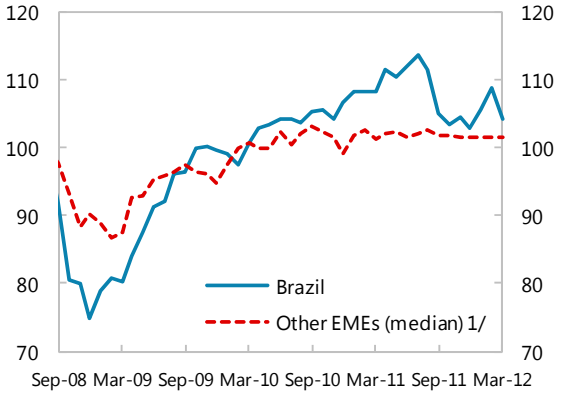
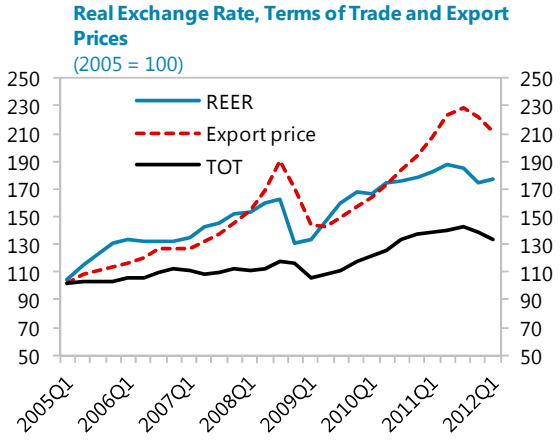


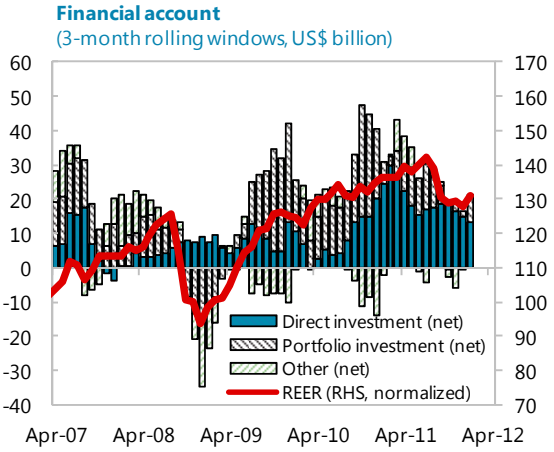
Figure 2. Brazil: Exchange Rate and Relative Prices











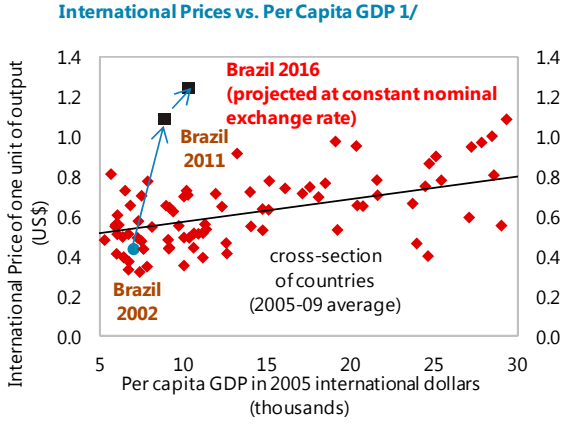
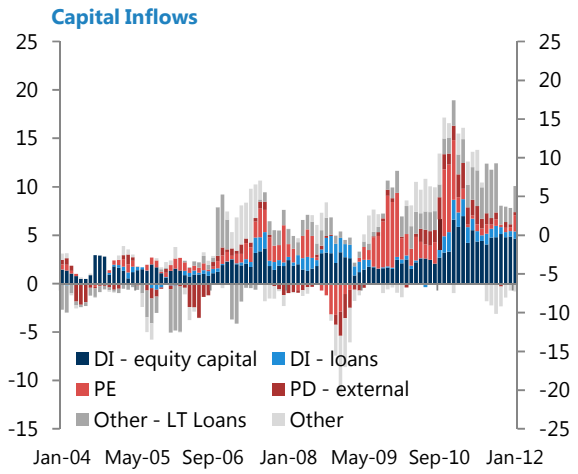
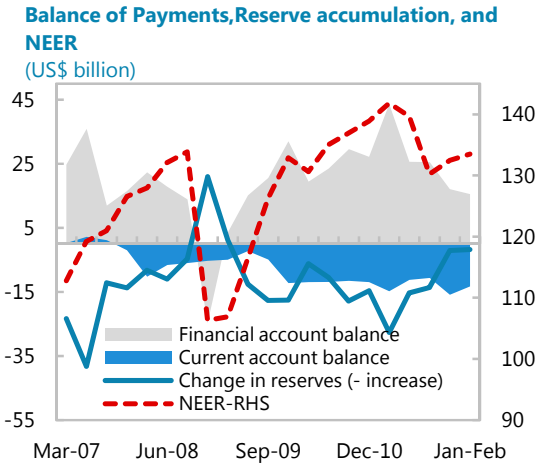
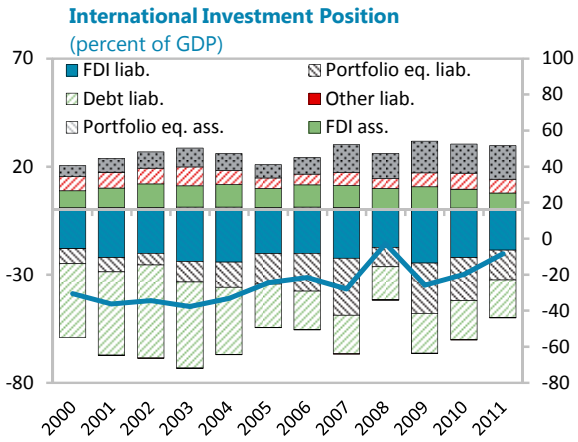
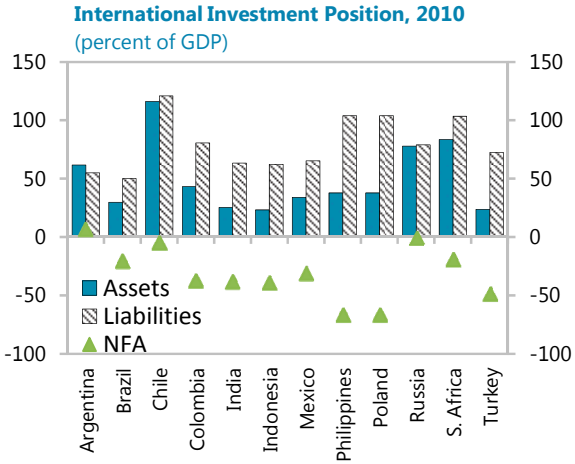


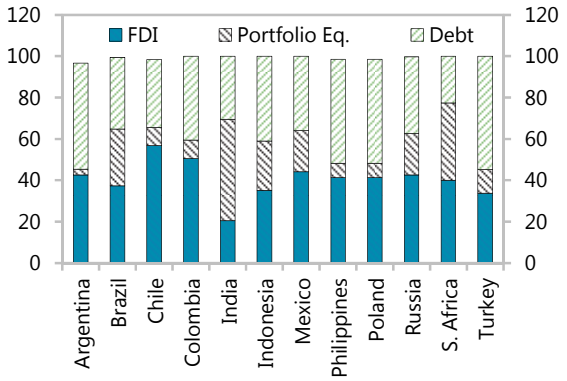
Figure 3. Brazil: Capital Flows and Net Investment Position

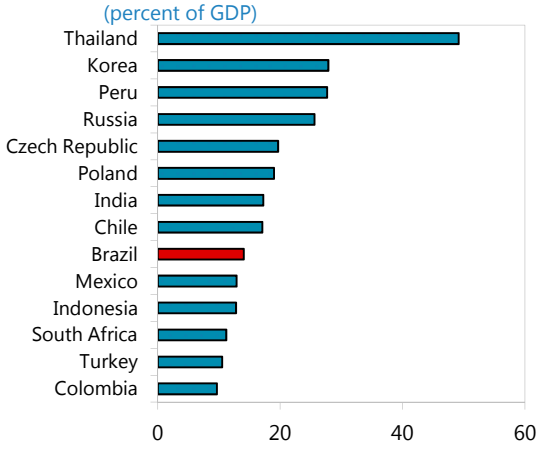








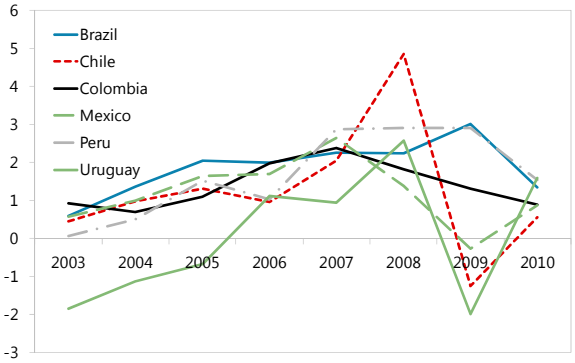




Annex VII. Brazil Credit Boom and Risks[1]

1. ***Brazil has experienced a decade of buoyant credit growth.*** Credit in Brazil as well as in other countries in the Latin America region, has been growing very rapidly during the last years. In all these countries, a structural transformation has helped raise the supply and demand of credit. Capital inflows and the development of the domestic capital market, have also supported lending expansion. Economic stability, associated with a better business environment, strengthened labor markets and social mobility, has raised the demand for credit by corporates and consumers.

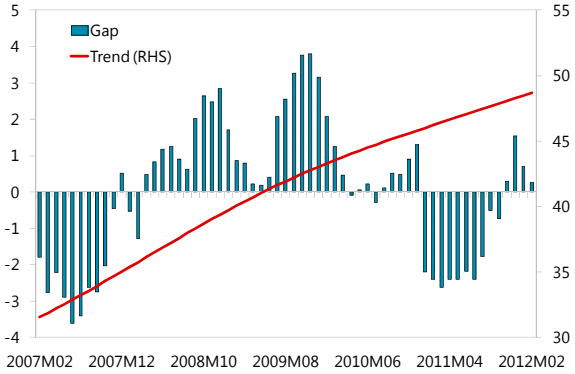
Latin America: Ratio of credit growth to GDP growth



Sources: Central Banks and IMF staff calculations

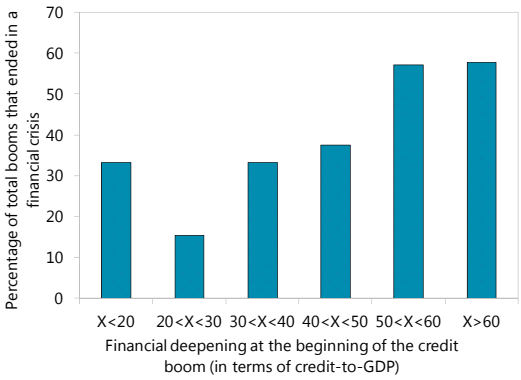
2. ***Brazil's credit growth has been very strong but the gap with respect to trend has narrowed.*** Credit to GDP in Brazil stands at about 50 percent of GDP, compared to about 25 percent in 2002. Despite this strong trend, the growth of credit relative to GDP moderated during the past years shrinking the credit-to-GDP gap that had emerged during 2008–09. The overall level of credit-to-GDP ratio remains relatively low by international standards.

Brazil: Credit-to-GDP
(percent)



3. ***International experience points out that credit booms may end in busts.***[2] Expanding too fast may lead to vulnerabilities through looser lending standards, excessive leverage, and asset price bubbles. Dell'Ariccia et al (2012) find that about one in three booms has been followed by a period of sub-par growth or a banking crisis. While recognizing that unhealthy booms are difficult to separate from healthy ones, these authors identify that duration, size and financial deepening are the key determinants to help tell in advance if a credit

Financial Deepening and Credit Boom Risks



Sources: Data from Dell'Ariccia et al. (April 2012).

[1] Prepared by Mercedes Garcia-Escribano.

[2] Dell'Ariccia, G., D. Igan, L. Laeven, and H. Tong. April 2012. "Policies for Macrofinancial Stability: How to Deal with Credit Booms," IMF Staff Discussion Note.

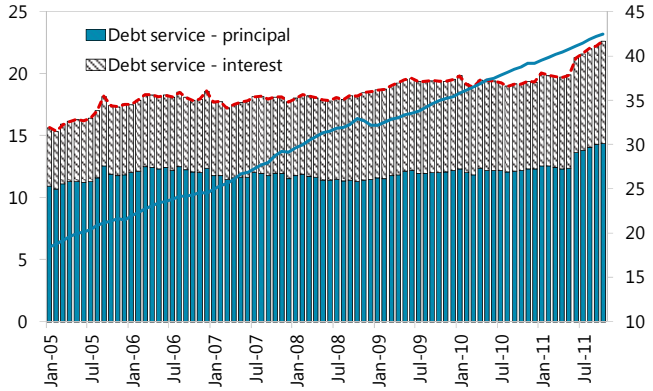
boom would end up badly. Larger and persistent booms, as well as those that start at a high credit-to-GDP ratio, are more likely to pose financial stability risks.

4. ***The FSAP notes that credit risks in Brazil are well contained.*** The bulk of the credit expansion in Brazil, from a relatively low level of GDP (credit to GDP stood at about 20 percent in 2004) likely reflects financial deepening as noted in ¶1. For this reason, monitoring and policy intervention targeted to sectors experiencing excessive credit growth have been the preferred approaches followed by the Brazilian authorities. For example, in December 2010, the authorities tightened macroprudential measures in specific consumer lending products, and starting in January 2012 the central bank credit risk information system has started to register additional information to better monitor credit developments and associated risks.

5. ***All credit categories have experienced strong growth rates in Brazil but especially so consumer credit.*** Consumer credit now represents 46 percent of total credit (compared to 43 percent in 2005 and 23 percent in 2002). Consumer credit, albeit decelerating slightly during 2011, with an annual growth rate of 20.7 percent compared to 22.4 percent during 2010, continues to expand at a strong rates and thus, it is creating a source of vulnerability for the household sector.

6. ***The consumer credit boom has led to an accumulation of consumer debt and high debt service ratios.*** Consumer indebtedness (as a percentage of disposable income) currently exceeds 40 percent of income. This is in line with regional and international comparators. But the consumer debt service ratio (at 23 percent of disposable income) is significantly larger than in other countries in the region, as a result of higher interest rates and much shorter loan tenors (in Brazil, the interest rates levied on unsubsidized consumer loans average around 50 percent, ranging from 30 percent for loans on durables to 175 percent for overdrafts; rates on housing credit—the bulk of which is directed credit—on the other hand, range between 4–12 percent). Mortgages are a small share of the consumer portfolio (about 20 percent), compared to more than 60 percent in regional peers.

Indebtedness and debt-service of households
(percent of disposable income)



Sources: Banco Central Brazil and IMF staff calculations.

7. ***Data limitations constrain the analysis of household credit risk, but the last survey available (2008) shows some concentration of debt service burden already at the low-income end.*** Indeed, while aggregate data on household leverage is available, the authorities have just launched an effort this year to collect more detailed information on household credit risk, including levels of leverage across income groups. However, some information on household's exposure to

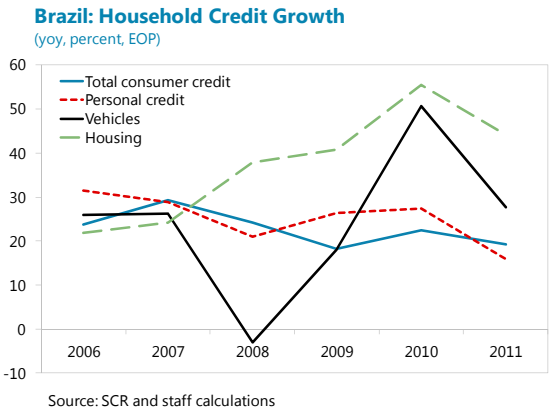
credit risk is available from the existing household survey data which provides detailed information on the type of borrowing, and importantly the level of debt service costs and income, though not the level of debt for individual households. The 2008–09 Household Budget Survey (Pesquisa de Orçamentos Familiares) shows that households with debt service commitments above 20 percent of income had a high concentration in the low and middle income percentiles.

Table 4. Household debt-service to disposable income

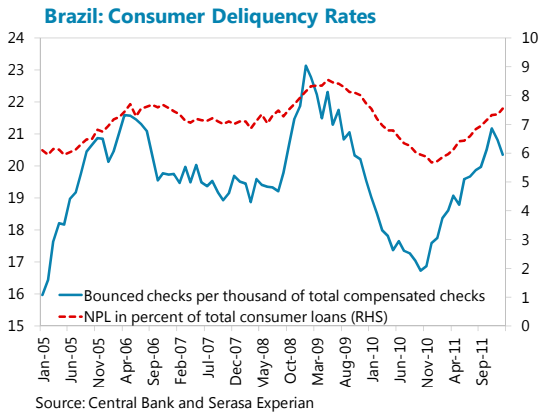
Income percentile	Percentage with some type of	Debt service to household disposable income (in percent of disposable income)				
		>0-10	10-20	20-40	>40	Total
5	39.4	52.1	21.8	14.6	11.5	100.0
10	42.0	64.3	20.3	10.6	4.8	100.0
25	49.9	66.8	20.3	9.5	3.4	100.0
50	58.3	66.8	21.8	8.3	3.0	100.0
75	69.2	60.4	24.8	10.5	4.3	100.0
90	77.6	48.2	32.6	13.8	5.4	100.0
95	83.0	37.5	40.7	16.2	5.6	100.0
Total	63.4	57.3	26.9	11.4	4.5	100.0

Source. Staff calculations using Pesquisa de Orçamentos Familiares. 2008-2009 Survey.

8. ***Recent credit trends suggest that the financial situation of at least some households has continued to deteriorate.*** Data from the existing credit registry (Sistema de Informações de Crédito) show that during 2010–11, the number of new individuals borrowing from the banking sector increased, although this increase decelerated in 2011. Data from Serasa Experian on credit report requests show that during 2010, demand for credit by low-income households increased significantly. At the same time, the composition of credit has shifted towards more expensive products. As the central bank tightened macroprudential measures in specific lending products (car loans, credit cards, long-term consumer loans) in late 2010 (as noted above), the use of two expensive lending products—credit cards and overdraft accounts—surged. At the same time, delinquency rates have increased. By early 2012, the non-performing loans to loan ratio for unearmarked consumer credit has reached 7.6 percent (up by 1.9 since December 2010). The surge in non-performing loan rates is particularly sharp for loans for durables, overdraft accounts, and credit cards. There are also other indications of increased household stress: (i) bounced checks picked up, and (ii) deliquency rates by origination of the loans increased in particular for vehicle loans.



Source: SCR and staff calculations



Source: Central Bank and Serasa Experian

INTERNATIONAL MONETARY FUND

BRAZIL

STAFF REPORT FOR THE 2012 ARTICLE IV CONSULTATION—INFORMATIONAL ANNEX

June 22, 2012

Prepared By

The Western Hemisphere Department
(In collaboration with other departments, the World Bank and the Inter-American Development Bank.

CONTENTS

ANNEX I. FUND RELATIONS

(As of May 31, 2012)

Membership Status: Joined January 14, 1946; Article VIII

General Resources Account:

	SDR Million	Percent Quota
Quota	4,250.50	100.00
Fund holdings of currency	2,941.25	69.20
Reserve Tranche Position	1,309.30	30.80
Lending to the Fund		
New Arrangement to Borrow	892.00	
Holdings Exchange Rate		

SDR Department:

	SDR Million	Percent of Allocation
Net cumulative allocation	2,887.08	100.00
Holdings	2,592.57	89.80

Outstanding Purchases and Loans: None

Financial Arrangements:

Type	Date of Arrangement	Expiration Date	Amount Approved (SDR Million)	Amount Drawn (SDR Million)
Stand-by	09/06/2002	03/31/2005	27,375.12	17,199.64
Of which: SRF	*09/06/2002*	*09/05/2003*	*7,609.69*	*7,609.69*
Stand-by	09/14/2001	09/05/2002	12,144.40	11,385.37
Of which: SRF	*09/14/2001*	*09/05/2002*	*9,950.87*	*9,950.87*
Stand-by	12/02/1998	09/14/2001	13,024.80	9,470.75
Of which: SRF	*12/02/1998*	*12/01/1999*	*9,117.36*	*6,512.40*

Projected Payments to the Fund (SDR million; based on existing use of resources and present holdings of SDRs):

	Forthcoming				
	2012	**2013**	**2014**	**2015**	**2016**
Principal	0.00	0.00	0.00	0.00	0.00
Charges/interest	0.19	0.42	0.42	0.42	0.42
Total	**0.19**	**0.42**	**0.42**	**0.42**	**0.42**

Safeguards Assessments: A safeguards assessment of the Banco Central do Brasil (BCB) was completed in June 2002 and updated in March 2005.

Exchange Rate Arrangement: Since January 18, 1999, Brazil's foreign exchange regime has been an independent float. Brazil continued to avail itself of the transitional arrangements of Article XIV, Section 2, of the Fund's Articles of Agreement through November 1999, while no longer maintaining restrictions under this Article. In a letter dated November 11, 1999, the Brazilian authorities informed the Fund that they accepted the obligations of Article VIII, Sections 2(a), 3, and 4, effective November 30, 1999.

Foreign exchange regulations have been liberalized further in recent years. In March 2005, the foreign exchange markets were unified; the requirement that residents transferring foreign exchange abroad do so through CC5 accounts (nonresident financial institutions accounts) was eliminated and export surrender requirements were simplified; limits and restrictions for the purchase and sale of foreign exchange and for international transfers in reais were eliminated for most transactions, except for: (a) investments in the capital and derivatives markets; and (b) investments abroad made by institutions authorized to operate by the central bank and for all funds subject to specific regulations. At present, central bank prior approval is no longer required for virtually all transactions.

In August 2006, remaining foreign currency controls at the central bank on export proceeds and import payments were abolished. The surrender of foreign exchange for exports was increased to the last working day of the corresponding month in the year following the date of shipment (and 360 days before shipment), and exporters were allowed to permanently keep up to 30 percent of their export proceeds abroad. Other measures introduced in August 2006 included: (a) the elimination of fines for delays or lack of execution of foreign exchange contracts for operations up to US$3,000; (b) the possibility of registering in domestic currency (at the central bank) all foreign capital held by corporations in Brazil and not yet registered or subject to other forms of registration; and (c) the possibility of making payments in reais for duty-free store purchases.

In September 2006, restrictions for investments in the capital and derivatives markets were eliminated. In April 2007, regulations on investments abroad by investment funds were liberalized further, subject to prudential rules set by the Securities and Exchange Commission of Brazil. In March 2008, exporters were allowed to keep 100 percent of their export proceeds abroad, up from

the 30 percent limit established in August 2006. In May 2008, banks were authorized to hold accounts offshore in reais. In July 2008 changes were made (a) allowing firms not registered to act in foreign exchange markets to make transactions of up to US$3,000 without prior authorization; (b) permitting settlement in reais of foreign exchange transactions between authorized Brazilian banks and foreign banks; and (c) raising to US$50,000 the limit on financial and trade transactions not subject to registration requirements for nonbank financial institutions. In November 2008 authorized banks were permitted to use accounts in entities domiciled offshore to settle real-denominated obligations with nonresident accounts.

Last Article IV Consultation

The last Article IV consultation with Brazil was concluded by the Executive Board on July 20, 2011. Brazil is on the 12-month cycle. Joint Fund/World Bank missions visited Brazil in 2002 for the Financial Sector Assessment Program (FSAP), which was discussed by the Board in December 2002. A FSAP Update mission took place in March 2012.

Technical Assistance

Fiscal Affairs Department (FAD). In September 2001, an FAD mission conducted a fiscal ROSC, and in December 2001 a mission provided Technical Assistance (TA) on tax reform. Subsequent missions have discussed the scope for increasing investment in infrastructure within a framework of continued fiscal responsibility, including during a follow-up visit in November 2004. In July 2008, a ROSC on fiscal transparency was undertaken for the state of São Paulo, which also received a seminar on performance budgeting in November 2008. In December 2009 a mission visited São Paulo to examine the state's medium-term expenditure framework with the purpose of improving fiscal performance and the quality of public expenditure. In November 2010, a short-term expert visited Sao Paulo to provide advice on cost accounting and a long-term advisor was installed in February 2011 to support efforts in this area. In April a follow-up mission evaluated progress in implementing the program budgeting and cost accounting systems. In May 2011, a short-term expert followed-up on the implementation of the program budgeting reforms. Between July 2011 and May 2012, FAD conducted several missions on public financial management, focusing on the review of the cost accounting systems and on improvements to the budgeting system.

Statistics Department (STA). Several missions have visited Brazil during 1998–2011 to provide TA on monetary and financial statistics, quarterly national income accounts, and government finance. These missions also assisted the authorities in the subscription to the SDDS, improving the analytical quality of Brazil's monetary aggregates, and the implementation of GFSM 2001. Recent missions have assisted the Ministry of Finance, the Banco Central do Brasil and the Instituto Brasileiro de Geografia e Estatística with the compilation of government finance statistics, price indices and the new national accounts framework, with greater emphasis on the consistency across macroeconomic statistics.

Monetary and Capital Markets Department (MCM). Missions visited Brazil in 2000 to assess observance of the Code of Good Practices on Transparency in Monetary and Financial Policies and

compliance with the Basel Core Principles for Effective Banking Supervision. In August and December 2009, missions visited to assist the capital markets regulator (CVM) in considering mutual funds development and regulation, and issues surrounding securitization and valuation of financial securities. A mission visited in August 2009 to work on credit risk modeling for financial oversight. In March 2010 a mission visited the National Treasury to initiate a technical cooperation project on term-structure modeling and debt management. A follow up mission to present preliminary results took place in January 2011. The project was completed in May 2011 with the publication of an IMF working paper (WP/11/113), "On Brazil's Term Structure: Stylized Facts and Analysis of Macroeconomic Interactions".

Resident Representative

The Fund maintains a resident representative office in Brasilia. The Resident Representative is Mr. Carlos Fernandez Valdovinos, who assumed the post in July 2011.

ANNEX II. RELATIONS WITH THE WORLD BANK[1]

On November 1, 2011, the World Bank approved its new Country Partnership Strategy (CPS) for Brazil, which will guide the Group's overall program in the country for FY 2012–2015. The new CPS builds on, and deepens, the last FY 2008–2011 Country Strategy. The World Bank Group has been a valued partner for Brazil, providing integrated and often multi-sector development solutions tailored to its needs. The GoB's demand for a continued strong partnership with the WBG is evidenced by the pre-payment of IBRD loans, in an approximate amount of $6.7 billion between 2009 and 2011, so as to open space for sub-national lending within IBRD's Single Borrower Limit. The Bank has also benefited greatly from Brazil's unique demands, which required the WBG to adapt and learn. Innovation and knowledge have been the central elements of this relationship, with strong flows of knowledge transfers to, from, and within Brazil, supported by a large impact evaluation program. The FY 12–15 CPS seeks to take these achievements further by maintaining the focus on knowledge generation and transfer, with greater emphasis on inclusiveness in line with President Rousseff's goal of eradicating extreme poverty. In this context, the Bank and IFC will expand their support for the Northeast, Brazil's poorest region, and for sustainable development in the Amazon, the Cerrado, and other fragile ecosystems.

Brazil's priorities for its partnership with the WBG are focused on second-generation development problems that require innovative solutions. These involve improvements in national policy frameworks and new ways to implement programs with sub-national governments and at the firm level. The WBG will help address these challenges, and help achieve the overarching goal of higher rates of inclusive and sustainable growth by focusing on four strategic objectives: (i) increase the efficiency of public and private investments; (ii) improve the quality and expand the provision of public services for low income households; (iii) promote regional economic development through improved policies, strategic infrastructure investments, and support for the private sector in frontier areas; and (iv) further improve sustainable natural resource management and enhance climatic resilience while contributing to local economic development and helping to meet rising global food demand. Brazil is looking to the Bank as a partner in the dissemination of the country knowledge and development experiences to other countries.

At the Federal level, Brazil's demand is concentrated in knowledge and strategy development services. These require a combination of AAA and knowledge-intensive lending, but also leaving room for other financial solutions as needed. The Federal Government is also interested in the Bank's support to sub-national Governments as a way of enhancing the implementation of national policies, ranging from the fiscal responsibility framework to strategic social and infrastructure investment programs. Sub-national governments demand integrated multi-sector development solutions, combining technical and financial support and using tailored instruments. The private

[1] Prepared by the World Bank.

sector seeks highly customized financing packages to help meet unique business and growth objectives.

The CPS identifies an indicative IBRD lending program in the order of US$5.8 billion for FY 12–13. While this is in line with annual lending in FY 08–11, it is equivalent to about 0.3% of total public expenditures. IFC's own-account investment program is forecast at about US$1.0 billion annually in FY 12–13, a minute fraction of total private sector investment. Thus, if the WBG is to have a significant impact in Brazil, this cannot be derived exclusively from the size of its financial contributions, which are bound to be small with respect to the country's own resources. Rather, the WBG will seek to have a development impact in Brazil through the knowledge contributions that it will embed in its various activities. In particular, the Bank Group will deploy its resources according to the following principles. Flexibility: Adjusting areas of engagement and instruments to better respond to the country's evolving needs. Selectivity: Focusing on areas where Brazil faces second-generation development challenges and can benefit most from the Group's knowledge and experience. Innovation: Supporting innovative investments and policy reforms that can be replicated locally and internationally, and offering innovative services and instruments (e.g. result-based and multi-sector loans, partial credit risk and other guarantees). Leveraging: Increasing the use of leveraged resources from government, the private sector and other development partners, to maximize development impacts.

IFC will continue responding to the needs of a rapidly-evolving private sector with a suite of competitive financial and advisory products. In FY 11, Brazil had IFC's largest single country new business and mobilization program in the world. While IFC does not expect to increase business volumes significantly, the nature of its involvement is changing toward (i) a greater focus on smaller, more difficult investments in poorer, frontier regions such as the Northeast and North; (ii) supporting innovation and competitiveness, promoting South-South knowledge transfers and encouraging access to new markets and products, and (iii) increasing IFC's advisory support to sub-national Governments for PPPs in infrastructure, social sectors, and the environment. IFC sharply expanded its activities in Brazil during the previous CPS period. As of May 31st, 2012, IFC commitments in Brazil stand at $3.75 billion.

Table. World Bank-Fund Country Level Work Program Under JMAP

	Products	Provisional Timing of Missions	Expected Approval/ Delivery Date
World Bank work program in the next 12 months	**A. Development policy lending**		
	1. Minas Gerais Partnership III DPL		July 2012
	2. Belo Horizonte Urban DPL		September 2012
	3. Rio de Janeiro State DPL III		September 2012
	4. BR Sergipe DPL		March 2013
	B. Investment lending		
	1. Tocantins Integrated Sustainable Regional Development		July 2012
	2. Additional Financing - Rio de Janeiro Sustainable Rural Devev.		July 2012
	3. Parana Multi-Sector Development Project		September 2012
	4. Alagoas Poverty Reduction and Economic Inclusion Project		October 2012
	5. Rio State TAL AF - PROGET		December 2012
	6. Embrapa Verde - Agricultural GHG Emissions Reduction Project		January 2013
	7. Rio de Janeiro Strengthening Public Sector Management TAL		February 2013
	8. South South Cooperation for Economic Development		March 2013
	9. Rio Grande do Norte: Regional Development and Governance		March 2013
	10. Ceara Swap SWAp III		March 2013
	11. Sao Paolo Transport, Climate Change and Disaster Risk Manage		March 2013
	12. Piaui integrated green growth sustainablity and inclusion		March 2013
	13. Additional Finance to Acre Social and Economic Inclusion and Sustainable Develp. Project		March 2013
	14. Espirito Santo Integrated Sustainable Development Project		April 2013
	15. BR Federal DRM Project		May 2013
	16. Brazil - Federal Transport SWAp		May 2013

	C. Analytical advisory services		
	1. Long Term Capital Market Development Financial Sector NLTA		FY 13
	2. Brazil FBS for the Multimodal Transport Corridor Sao Francisco		FY 13
	3. Airports Public Private Partnerships in Brazil		FY 13
	4. Management model of the São Francisco River Basin		FY 13
	5. BR (FBS) Concession Pub. Irrig. Perimeters - Baixo do Irece		FY 13
	6. Technical Assistance & Guidance in Implementation of Minha Casa Minha Vida and Integration of National Housing Plan		FY 13
	7. Leveling the Playing Field: Improving the Sustainable Protection and Promotion of Vulnerable Populations in Brazil		FY13
	8. Fee-based Analytical and Advisory Services to the Municipality of Rio de Janeiro		FY 13
	9. Social Housing Information System SBDC		FY 13
	10. Concession of the Senador Nilo Coelho Irrigation Project		FY 13
	11. Development of National Disaster Risk Management Strategy		FY 13
	12. BR Involuntary Resettlement Policy TA		FY 13
	Country Studies Pipeline		
	1. BR (FBS) with Ministry of Environment		FY 13
	2. Bringing the State Back to the Favelas of Rio de Janeiro		FY 13
	3. Status of Urban Pollution Management in Brazil		FY 13
	4. Adapting Water Resources Planning and Operation to Climate Changes in Northeast Brazil		FY 13
	5. BR Locking in Performance Gains		FY 13
	6. Brazil Eradicating Extreme Poverty		FY 13
	7. BRAZIL Accounting & Audit. Report on		

	the Observance of Standards and Codes 8. Brazil Productivity 9. Amazon Deforestation and Protection 10. Gender Study 11. Impacts of Climate Change on Brazilian Agriculture 12. Brazil Land Governance Assessment		FY 13 FY 13 FY 13 FY 13 FY 13 FY 13
IMF work program in the next 12 months	**A. Technical Assistance** Performance budgeting and cost accounting (State of Sao Paulo) **B. Staff visit** **C. Article IV mission**	 Second half of 2012 November 2012 May 2013	 FY 13 July 2013

ANNEX III. RELATIONS WITH THE INTER-AMERICAN DEVELOPMENT BANK[1]

The IDB's New Country Strategy with Brazil was approved on May 9th, 2012. This was established for the period 2012–2014 and is comprised of six strategic objectives: (1) stimulate social and productive inclusion; (2) improve the condition of the country's infrastructure (3) promote the development of sustainable cities; (4) improve the institutional capacity of public entities; (5) increase the sustainable management of natural resources and climate change mitigation and adaptation actions; and (6) promote development through the private sector.

For 2012, total loan approvals are estimated to reach US$2,185.7 million. Loans with sovereign guarantee make the bulk of the operations amounting to US$1,985.7 million, while operations with the private sector are expected to total US$200 million.[2] In addition, the IDB program in the period estimates approvals of US$11.1 million in grants for Technical Cooperation. The new country strategy resumed the trend of increasing share of subnational and private sector operations in the total IDB financing in Brazil.

In 2011, the IDB approved 14 loans amounting to US$2,186 million, including 5 operations for US$67.7 million for the private sector. Most of the lending went to support productivity and infrastructure (63.8 %) and improving the living conditions in the cities (34.2%) and 88% of the volume borrowed by Brazil in 2011 went to subnational governments (although, all of them with sovereign guarantee). Among the major operations approved, some highlights are: (a) Mario Covas Rodoanel Project US$1,148.6 million), (b) Environmental Sanitation Programs for Guanabara Bay Area and Igarapes in Manaus (US$732 million),(c) Rehabilitation for the Furnas and Luiz Carlos Hydroelectric Power Plants (US$128.6 million) and (d) Profisco Credit Facility (US$5.6 million to State of Sergipe).

Loans Approved 2011 [1] in US$ million							
		Living conditions and efficiency in the cities	Productivity and infrastructure	Institutional strengthening and modernization of the state	Poverty, equity and human capital	Total	# of loans
Subnational gov.		748.6	1,148.6	5.8	21.6	1,924.6	6
Central gov.		-	178.7	15.0	-	193.7	3
Private sector		-	67.7	-	-	67.7	5
Total		**748.6**	**1,395.0**	**20.8**	**21.6**	**2,186.0**	**14**

1/: Based on the IDB's Strategy Areas for the period 2004–2007 and updated for 2009-2011.

[1] Prepared by the Inter-American Development Bank.

[2] Private sector values does not include loans by the Inter-American Investment Corporation (IIC) and with the Multilateral Investment Fund (MIF) operations, both members of the IDB Group.

Brazil is the largest IDB borrower. The current active portfolio consists of 88 loans to the public sector (US$8.0 billion) and 10 loans to the private sector (US$453.7million). Brazil's outstanding debt with the IDB amounts to US$13.9 billion (as of April 30, 2012) and from the current portfolio US$6.1 billion have not been disbursed yet.

Composition of the Portfolio by Strategic Area as of June 11, 2012 [1]				
Sector	Strategy Area	Number of Loans	Amount (US$ million)	Available (US$ million)
	Living conditions and efficiency in cities	21	689.0	479.0
	Institutional strengthening and modernization of the state	27	1,094.7	812.30
	Poverty, equity and human capital	6	263.0	163.0
	Productivity and infrastructure	34	5,914.0	4,339.0
Private		10	493.0	274.00
Total		**98.0**	**8,453.7**	**6,067.3**

1/: Based on the IDB's Strategy Areas for the period 2004–2007 and updated for 2009-2011.

ANNEX IV. STATISTICAL ISSUES

The quality of macroeconomic statistics has improved significantly, and the statistical information provided to the Fund is adequate for surveillance. A mission to prepare the data module of the ROSC took place in early 2005 and recommended the adoption of the Government Finance Statistics Manual 2001 (GFSM 2001). Brazil subscribes to the Special Data Dissemination Standard (SDDS).

National accounts

In March 2007, the Brazilian Statistical Institute (IBGE) released revised national accounts for 1995–2006. The revised data are benchmarked in 2000 and introduced significant improvements in methodology, including the use of annual sectoral surveys and of corporate income tax collection data. Also, the revised data reflects enhanced coverage of economic activities (e.g. formal, unobserved activities), use of direct estimates of the various components of aggregate demand and economic activities (e.g. private and public consumption, gross capital formation, and mobile telephone services), as well as other significant improvements in methodology, including annual and quarterly supply and demand tables for about 300 products of relevance for the economy. National accounts are now compiled in accordance with the System of National Accounts 1993, and the series through 2008 (data and supporting methodological notes) are available on the internet (http://www.ibge.gov.br) and in International Financial Statistics (IFS).

The IBGE has also improved the compilation of quarterly national accounts, and currently compiles quarterly supply and demand tables from an array of critical products for the economy. Further methodological improvements should include the compilation of regular surveys on services and construction activities that would help cross check current sectoral estimates based on sectoral employment and use of inputs (e.g., cement, soil, ferrous metals).

Prices

Since July 1999, the official consumer price index has been the Broad Consumer Price Index (IPCA) compiled by the IBGE. The IPCA covers changes in the prices of goods and services purchased by households earning between one and forty times the minimum wage in 11 metropolitan areas. The IBGE, the private Getúlio Vargas Foundation (FGV), and the University of São Paulo prepare other consumer price indices with different geographic and demographic coverage. Wholesale price indices are compiled only by the FGV. Wholesale and consumer price indices are reported regularly in IFS. The export price data published in IFS are total unit values of exports, and unit values and wholesale prices of coffee exports. The IBGE is moving toward compiling a producer price index for release in 2010, with technical assistance from the Fund.

Government finance

The Ministry of Finance and the Central Bank of Brazil compile and disseminate government finance statistics using the Government Finance Statistics Manual 2001 presentation. The reported statistics include the statement of government operations and financial balance sheet for the consolidated Central Government (comprising the National Treasury and Social Security) as well as the financing operations and the financial balance sheet for General Government.

The reported data were compiled by converting the nationally published data, which still broadly follow the GFSM 1986 framework to the GFSM 2001 classifications. The data reflect the movements of the single treasury account and are on a cash basis. The only exception is interest, which incorporates the accrual based information compiled by the Central Bank of Brazil. The Gross Debt indicator disseminated by the authorities excludes the government securities under the Central Bank's outright ownership, making international comparisons difficult.

In 2009, the Brazilian authorities have engaged in a migration plan for the full implementation the GFSM 2001. This plan comprises the introduction of a new accounting framework based on the International Public Sector Accounting Standards (IPSAS), which merges the traditional budgetary approach, the accrual based accounting as well as some additional internal controls into a single system. This new accounting framework significantly enhances the usefulness of the Brazilian public sector accounting information and will be a significant step towards the compilation of complete GFS in a systematic way, expected to be in place by 2013.

Monetary and financial sector

The Brazilian Central Bank (BCB) compiles and publishes monetary and financial statistics, with concepts, definitions, and classification that are broadly in line with the Monetary and Financial Statistics Manual (MFSM). In April 2008, an STA mission assisted the BCB to include the closed pension funds, representing around 50 percent of the total assets of the other financial corporations, in the institutional coverage of monetary statistics. STA is working with the BCB in the introduction of the standardized report forms based on accounting data and compilation of a financial corporations survey with full institutional coverage.

The BCB regularly reports quarterly FSIs to the IMF for publication. Currently, the BCB reports all core and 17 encouraged FSIs, with data beginning in Q1 2005. Plans are under way to compile the rest of the encouraged FSIs.

Balance of payments

External data are compiled according to the fifth edition of the Balance of Payments Manual. The BCB is supplementing the registry of the foreign exchange system with surveys on transportation, insurance, and other services. Compilation of reinvested earnings and undistributed branch profits item in the current account and reinvested earnings item in the financial account could be improved, as the registry of the foreign exchange system does not capture these transactions. Brazil disseminates quarterly data on the international investment position. Quarterly balance of payments

data are reported regularly for publication in IFS, and the BCB publishes data for monthly balance of payments and the Data Template on International Reserves and Foreign Currency Liquidity with a lag of one month. Brazil reports quarterly total external debt position data with a three-month lag to the World Bank's Quarterly External Debt Statistics (QEDS) database.

Brazil: Table of Common Indicators Required for Surveillance
As of June 12, 2012

	Date of Latest Observation	Date Received	Frequency of Data[7]	Frequency of Reporting[7]	Frequency of Publication[7]
Exchange Rates	5/31/12	5/31/12	D	D	D
International Reserve Assets and Reserve Liabilities of the Monetary Authorities[1]	5/31/12	6/4/12	D	D	D
Reserve/Base Money	4/30/12	6/4/12	D	D	D
Broad Money	April 12	6/4/12	M	M	M
Central Bank Balance Sheet	April 12	6/4/12	M	M	M
Consolidated Balance Sheet of the Banking System	April 12	6/4/12	M	M	M
Interest Rates[2]	5/31/12	6/4/12	D	D	D
Consumer Price Index	April 11	5/07/11	M	M	M
Revenue, Expenditure, Balance and Composition of Financing[3] – General Government[4]	April 11	5/27/11	M	M	M
Revenue, Expenditure, Balance and Composition of Financing[3]– Central Government	April 11	5/27/11	M	M	M
Stocks of Central Government and Central Government-Guaranteed Debt[5]	March 11	4/28/11	M	M	M
External Current Account Balance	April 11	5/25/11	M	M	M
Exports and Imports of Goods and Services	April 11	5/25/11	M	M	M
GDP/GNP	Q1 2011	6/9/11	Q	Q	Q
Gross External Debt	April 11	5/25/11	M	M	M
International Investment Position[6]	Q1 2011	5/25/11	Q	Q	Q

[1] Includes reserve assets pledged or otherwise encumbered as well as net derivative positions.
[2] Both market-based and officially-determined, including discount rates, money market rates, rates on treasury bills, notes and bonds.
[3] Foreign, domestic bank, and domestic nonbank financing.
[4] The general government consists of the central government (budgetary funds, extra budgetary funds, and social security funds) and state and local governments.
[5] Including currency and maturity composition.
[6] Includes external gross financial asset and liability positions vis-à-vis nonresidents.
[7] Daily (D), Weekly (W), Monthly (M), Quarterly (Q), Annually (A); Irregular (I); Not Available (NA).

INTERNATIONAL MONETARY FUND
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International Monetary Fund
700 19th Street, NW
Washington, D. C. 20431 USA

IMF Executive Board Concludes 2012 Article IV Consultation with Brazil

On July 9, 2012, the Executive Board of the International Monetary Fund (IMF) concluded the Article IV consultation with Brazil.[1]

Background

The past decade has seen a remarkable social transformation in Brazil, underpinned by macroeconomic stability and rising living standards. A strong policy framework (fiscal responsibility, inflation targeting and a flexible exchange rate), and improved income distribution and social outcomes have been important accomplishments. Together with terms of trade gains and economic and financial inclusion, this has supported sizable gains in private consumption and some increase in investment. Financial stability has been underpinned by a strong banking system and framework for regulation and supervision.

More recently, Brazil's economy has slowed and growth surprised on the downside last year. A policy tightening cycle was appropriately launched during 2010-11 to cool overheating pressures and bring inflation gradually back to target. Macroprudential measures were also introduced to reduce stability risks in specific sectors. Growth stalled in 2011 Q3 and slowed to 2.7 percent in 2011, in part reflecting the impact of external shocks.

[1] Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. A staff team visits the country, collects economic and financial information, and discusses with officials the country's economic developments and policies. On return to headquarters, the staff prepares a report, which forms the basis for discussion by the Executive Board. At the conclusion of the discussion, the Managing Director, as Chairman of the Board, summarizes the views of Executive Directors, and this summary is transmitted to the country's authorities. An explanation of any qualifiers used in summings up can be found here: http://www.imf.org/external/np/sec/misc/qualifiers.htm.

Monetary policy has since been eased substantially though its effect on the real economy has taken hold more gradually than in previous cycles, while the primary surplus target for 2012 has been kept unchanged at 3.1 percent of GDP. The economy expanded only slowly in early 2012, reflecting weak investment and business confidence and slowing trade volumes. Industrial output remains sluggish. However, consumption has been recovering since late 2011 on the back of improving confidence and buoyant labor market conditions, including the large minimum wage increase.

Inflation is falling but medium term expectations have risen above the target mid-point. After peaking at over 7 percent in September 2011, annual headline inflation has dropped to 5 percent in May. This decline reflects to some extent the unwinding of transitory supply factors and the effect of the normal periodic updating of the index weights. The lagged impact of moderating growth and the negative output gap has also exerted some downward pressure.

Credit has grown very rapidly in Brazil over the last years with a substantial increase in the credit-to-GDP ratio. A significant portion of this likely reflects financial deepening. With the gains on income and inclusion post-2003, new borrowers have obtained access to finance. Legal reforms have substantially strengthened creditor rights. Moreover, the overall level of financial development remains low by international standards, a factor that lowers stability risks. More recently, credit growth has moderated in line with the economy, reducing the risks of overheating in some sectors, while the large buffers in the system limit stability risks.

Capital flows have slowed in recent months. Portfolio flows remain very modest, in part due to the traction the authorities have achieved with various capital flow management measures, but also due to increased risk aversion in global financial markets. However, foreign direct investment inflows (FDI) are still buoyant and continue to largely fund the current account. As capital flows have moderated, the exchange rate has depreciated significantly against the U.S. dollar, although it remains above the average levels of 2004-08 in real effective terms.

Executive Board Assessment

Executive Directors commended the authorities' commitment to a strong policy framework, which has delivered a decade of macroeconomic stability and rising living standards. Appropriately calibrating policy to changing economic conditions and increasing saving and investment will be important challenges for the period ahead.

Directors welcomed the recent reorientation of the policy mix toward generating fiscal savings and providing monetary countercyclical support. They encouraged the authorities to meet their deficit target for the year to secure a declining path for the debt ratio and further boost the credibility of their fiscal plans. Directors considered that monetary policy has been appropriately

eased, but noted that the authorities should stand ready to unwind the monetary stimulus if their inflation target appears at risk.

Directors agreed that exchange rate flexibility and liquidity provision provide first lines of defense against adverse external shocks. They also noted that capital flow management measures (CFMs) have been a useful addition to the policy toolkit in a turbulent financial environment. A few Directors cautioned, however, that CFMs, while helpful in the short run, do not fully address important underlying drivers of capital inflows, could affect domestic liquidity, and may adversely impact other capital flow recipients.

Directors considered that further efforts are needed to rebalance demand from consumption to investment and net exports. They took note of the staff's assessment that the real effective exchange rate remains on the strong side despite a significant depreciation from peak levels a year ago. Directors welcomed recent steps to strengthen saving and competitiveness, including pension and tax reforms, but saw the need for further reforms to raise productivity. Public investment financed by fiscal saving and further capital market deepening will also be important.

Directors welcomed the findings of the FSAP Update that the financial sector is well regulated and supervised and that the banking system is well-placed to cope with shocks. Nonetheless, they considered that rapid consumer credit growth, rising real estate prices, and continued credit expansion by public banks call for continued vigilance and careful prudential oversight. Directors commended the authorities' plans to bring forward the implementation of elements of Basel III, continue to make active use of macroprudential policy tools, and further boost the soundness of the financial sector.

Table. Brazil: Basic Data, 2006-2012

	2006	2007	2008	2009	2010	Prel. 2011	Proj. 2012
(Annual percentage changes, unless otherwise indicated)							
Real GDP	4.0	6.1	5.2	-0.3	7.5	2.7	2.5
Domestic demand (contribution to growth, percent)	4.6	6.9	6.5	0.0	9.6	3.4	2.7
Private consumption (growth rate)	5.2	6.1	5.7	4.4	6.9	4.1	3.4
Public consumption (growth rate)	2.6	5.1	3.2	3.1	4.2	1.9	-1.7
Gross investment (growth rate)	5.8	11.4	11.3	-11.7	20.8	2.5	3.7
Gross fixed capital formation	9.8	13.9	13.6	-6.7	21.3	4.7	5.8
Foreign balance (contribution to growth, percent)	-0.7	-0.8	-1.3	-0.3	-2.0	-0.6	-0.2
Exports of GNFS (contribution to growth, percent)	0.6	0.7	0.1	-1.0	1.2	0.5	0.4
Imports of GNFS (contribution to growth, percent)	1.3	1.6	1.4	-0.7	3.2	1.1	0.6
Prices							
Consumer price index (IPCA, period average)	4.2	3.6	5.7	4.9	5.0	6.6	5.2
Consumer price index (IPCA, end of period)	3.1	4.5	5.9	4.3	5.9	6.5	4.8
GDP deflator	6.1	5.9	8.3	7.2	8.2	7.0	5.6
Terms of trade	5.3	2.1	3.5	-3.2	17.0	7.8	-6.8
(In percent of GDP)							
Public finances							
Federal government 1/							
Total revenues	23.0	23.3	23.6	22.8	24.4	23.9	23.9
Total expenditures	26.1	25.5	24.4	26.1	26.0	26.0	24.8
Of which: interest	5.3	4.5	3.6	4.6	3.3	4.4	3.1
Primary balance	2.2	2.2	2.8	1.3	1.8	2.2	2.2
Consolidated public sector							
Primary balance	3.3	3.5	4.1	2.2	2.5	3.1	3.1
Overall balance	-3.5	-2.6	-1.3	-3.0	-2.7	-2.6	-1.9
Public sector net debt	47.0	45.1	38.0	41.5	39.1	36.4	34.6
(12-month percentage changes, unless otherwise indicated)							
Money and credit							
Base money 2/	12.6	21.8	-17.6	11.6	131.7	10.8	7.4
Broad money (M2) 3/	18.6	18.4	18.0	15.8	15.4	18.7	15.5
Credit to the private sector	21.8	28.9	28.3	13.3	22.9	20.2	18.1
(In billions of U.S. dollars, unless otherwise indicated)							
Balance of payments							
Current account	13.6	1.6	-28.2	-24.3	-47.3	-52.5	-63.4
Merchandise trade balance	46.5	40.0	24.8	25.3	20.1	29.8	9.9
Exports	137.8	160.6	197.9	153.0	201.9	256.0	260.0
Imports	-91.4	-120.6	-173.1	-127.7	-181.8	-226.2	-250.1
Services, income, and transfers (net)	-32.8	-38.5	-53.0	-49.6	-67.4	-82.3	-73.3
Capital and financial account	16.3	89.1	29.3	71.3	99.6	109.4	91.7
Foreign direct investment	-9.4	27.5	24.6	36.0	36.9	76.0	55.6
Portfolio investment	4.3	37.9	3.5	50.5	56.4	31.2	14.4
Other capital (net)	21.3	23.7	1.3	-15.2	6.3	2.2	21.7
Errors and omissions	0.6	-3.2	1.8	-0.3	-3.5	-1.3	0.0
Change in net international reserves	-4.3	-30.6	-87.5	-3.0	-46.7	-48.8	-55.7
Current account (in percent of GDP)	1.3	0.1	-1.7	-1.5	-2.3	-2.1	-2.3
Outstanding external debt (in percent of GDP)	0.0	0.0	12.0	12.2	12.0	12.0	12.7
Total debt service ratio (in percent of exports of goods & services)	51.8	51.5	28.6	40.4	29.9	26.4	21.0
Gross reserves/short-term external debt (residual maturity, in percent)	425.1	463.6	531.4	769.7	503.6	887.5	394.6

Sources: Central Bank of Brazil; Ministry of Finance; and IMF staff estimates.

1/ Includes the central government, central bank, and social security system.

2/ End of period. Currency issued plus required and free reserves on demand deposits held at the central bank.

3/ End of period. Currency in circulation plus demand, time and savings deposits.

Statement by Paulo Nogueira Batista, Executive Director for Brazil
and Pedro Fachada, Senior Advisor to Executive Director
July 9, 2012

1. On behalf of the Brazilian authorities, we thank staff for the useful discussions during this year's Article IV mission. We also thank staff for the comprehensive work as part of the joint IMF/World Bank Financial Sector Assessment Program (FSAP). The authorities consider that both the Article IV report and the Financial Sector Stability Assessment (FSSA) provide valuable policy advice.

Monetary and fiscal policies

2. At the time of the 2011 Board discussion on Brazil, the output gap had narrowed and 12-month inflation was running above the upper limit of the inflation target range. The macroeconomic outlook changed significantly since then. In response to policy tightening implemented in late 2010 and early 2011, coupled with external headwinds, GDP growth decelerated faster than expected by the authorities, while inflation has fallen significantly and is approaching the mid-point of the target range (4.5 percent).

3. The shift in macroeconomic conditions allowed the authorities to adopt a more expansionary stance since the second half of 2011. Monetary easing has been used as the main countercyclical tool. Fiscal policy has been somewhat tightened to make room for more ambitious reductions of the policy rate.

4. Since late August 2011, the Brazilian Central Bank has cut the policy rate (known as the Selic rate) by a cumulative 400 basis points, bringing it to historic lows in both nominal and real terms. The reduction is larger than most observers could have predicted some months ago. After many years of high interest rates, the authorities have aimed at creating conditions to bring the Selic rate more in line with interest rates in the rest of the world. They are of the view that the consolidation of the inflation targeting regime, credibility gains brought about by eight consecutive calendar years of inflation inside the target range, a deeper credit market and changes in the structure of financial markets, all contribute to permanently lower interest rates. Ample liquidity and low interest rates in the international market help achieve this objective.

5. To facilitate the reduction of interest rates, the government announced in May changes in the rules of the saving accounts (*cadernetas de poupança*), the most popular financial instrument in Brazil – a politically difficult decision. For decades, saving accounts offered fixed interest rates, in practice setting a floor to the Selic. According to the new rule, saving accounts will yield 70 percent of the Selic rate whenever the latter falls below the current level of 8.5 percent.

6. The consolidated public sector primary surplus target for 2012 and 2013 has been set at the same level as in 2011 (3.1 percent of GDP). Given the cyclical position of the economy, this corresponds to a small increase in the structural primary surplus, as estimated by staff. The overall fiscal deficit is expected to decline from 2.6 percent of GDP in 2011 to below 2 percent of GDP this year.

7. The current primary surplus target is consistent with a continuing gradual decline of the public debt-to-GDP ratio. The net public debt fell in May to 35 percent of GDP, the lowest since 1998 (compared to 36.4 percent of GDP in end-2011 and 39.1 percent of GDP in end-2010). Debt dynamics benefits not only from lower financing costs, but also from a more depreciated exchange rate as the consolidated public sector is a net creditor is foreign currency.

External sector

8. At 2.2 percent of GDP, the current account deficit remained relatively stable in 2011 compared to the previous year. A small improvement in the trade balance surplus was offset by higher deficits in the services and income accounts of the balance of payments, reflecting especially an increase in profit remittances. As in previous years, the current account deficit was fully financed by foreign direct investment flows. Indeed, net foreign direct investment exceeded in 2011 the current account deficit by a considerable margin.

9. As stressed by staff in the report, the nominal exchange rate depreciated significantly in the recent past – as much as 30 percent in the last 12 months. This reflects in part external factors, such as the decline in international commodity prices, a rise in investors' risk aversion, safe haven concerns and the appreciation of the dollar against other major currencies. However, domestic factors are also at play, including lower interest rate differentials and the macroprudential measures adopted by the authorities in 2010 and 2011 to curb volatile capital flows. At end June, the level of international reserves reached US$ 374 billion, approximately twice as high as in the pre-Lehman period.

10. Brazil has continued to rely on capital flow management measures (CFMs) as an instrument to cope with large and volatile capital inflows. We welcome staff's view that the use of these measures to manage cyclical pressures is an "appropriate part" of the policy tool-kit. As highlighted by staff, some inflows (most notably, portfolio inflows) have been substantially reduced as a consequence of the introduction of CFMs, contributing to contain exchange rate pressures. The authorities remain ready to adjust CFMs to evolving domestic and external circumstances. For instance, in March they

extended from two to five years the minimum term for exemption of the IOF tax on foreign borrowing by banks and corporations. In June, in light of adverse external circumstances, this minimum term returned to two years.

Economic activity

11. Available data indicates only a modest recovery of output in the first half of 2012. The authorities expect the economy to gather momentum in the second half of 2012 as the lagged effects of the monetary easing cycle take hold. Annual GDP growth, nonetheless, will be low due to the weak carryover from 2011.

12. Despite an anemic recovery so far, the labor market has remained relatively strong, with the unemployment rate at historic lows. Favorable labor market conditions, coupled with the real adjustment of the minimum wage in the beginning of this year, have been supporting consumption, which grew 1 percent quarter-on-quarter in the last quarter of 2011 and in the first quarter of 2012, well above the pace of GDP growth.

13. We welcome staff's analysis of the performance of Brazilian manufacturing in recent years. After a sharp recovery in the aftermath of the 2008 crisis, manufacturing output has stagnated since 2010. The authorities share the staff's opinion that the underperformance of industry has been mainly caused by a stronger exchange rate and increasing import competition.

14. Risks to the growth outlook are mainly associated to the international scenario. The intensification of the euro area crisis and/or a deceleration of world growth (especially if led by China) have the potential to affect the Brazilian economy through lower commodity prices, reduced demand for Brazilian exports, lower investment inflows and a weakening of confidence. As in the 2008/2009 crisis, the flexible exchange rate and high international reserves would be the main shock absorbers in case of a deterioration of the international scenario. At the same time, this would open additional room for monetary easing and the use of other countercyclical tools, if needed.

15. Brazil has a relatively low saving rate and low investment rate compared with the country's long-term needs. However, both the saving rate and the investment rate have been on a gradual upward trend in recent years. The authorities continue to work towards improving conditions for sustainable long-term growth. Given the infrastructure gap, the public sector has a role in fostering investment, especially in the areas of urban development, transportation and energy, which are the focus of the Growth Acceleration Program 2 (PAC 2 – *Programa de Aceleração do Crescimento*). The National Development Bank (BNDES) also continues to play a role in financing

investment projects, especially in light of the still high interest rates and the lack of private long-term financing mechanisms.

Financial stability

16. The Brazilian authorities broadly agree with the FSSA. The Brazilian financial system is highly capitalized, profitable and well regulated and supervised. Banks have significant capital and liquidity buffers and stress tests indicate that they are resilient to a variety of severe shocks.

17. The authorities remain vigilant to the build-up of risks, particularly stemming from credit expansion. As extensively discussed in last year's Article IV consultation, they continue to see rapid credit growth as resulting from macroeconomic stabilization and structural changes in the financial market that facilitated the access of the population to financial products and reduced credit and legal risks. Despite the recent increase, credit-to-GDP is still relatively low for emerging market standards, especially in the housing segment. Staff recognized in the report (page 14) that strong bank supervision and ample capital and income positions act as risk mitigants. Therefore, the emphasis on credit growth as creating "pockets of vulnerability" – an expression that seems to become routine in FSSAs – appears somewhat exaggerated.[1]

18. The crisis prevention and crisis resolution frameworks are robust. The high level of reserve requirements held by banks at the Central Bank acts as the main buffer against liquidity shocks. Macroprudential tools have been extensively used in recent years to contain financial stability risks. The Credit Guarantee Fund (FGC) has developed into an important player in the banking safety net, promoting financial stability and helping avoid banking crises through several mechanisms, including the financing of bank acquisitions. The current resolution regime is effective and complies with international standards. The Central Bank is studying a new banking resolution bill that will address some gaps in the legislation.

[1] In the recent FSSA for Spain, discussed by the Board in early June, the term "pockets of vulnerability" was criticized during the meeting and altered by staff to "vulnerabilities" before publication.