December, 2010

Brazil: monetary policy

After a very noisy 2010, we see stable rates all over 2011, with Central Bank taking high risks.

This has been a noisy year for the monetary policy. Political transition, an adverse supply shock and Central Bank's lower risk aversion have increased the fear of a inflationary bias in the monetary management. Our take, however, is that Brazil's Central Bank remains strongly committed to the target: changing policy stance is a real option, even though policy is likely to be flexible, using target ranges and a longer convergence period for inflation.

Over the past recent years, Brazil's Central Bank (BCB) has been totally committed to the country's inflation targets. Responsibility has been the institutional response to our inflationary history and to investors' continuous fear of political interferences arising from the lack BCB's formal autonomy. As a consequence, monetary policy management has built up reputation and credibility.

This year, however, the monetary policy has been surprisingly less conservative than market consensus, which may be a sign that BCB is taking higher risks than expected.

What's the story behind this supposed lower risk aversion? The most common reading is that this year's elections have increased BCB's tolerance to inflation. According to this view, BCB may have assumed an inflationary bias when trying to reach temporarily low unemployment rates.

We don't share this view. The country has political incentives to maintain inflation under control, since real income is highly correlated with government's popularity. On the grounds of Brazil's unstable history, the country has understood the costs and benefits of controlling inflation. In fact, the political schedule didn't prevent BCB from raising rates this year.

Our take is that BCB's strategy differs from market consensus in two main aspects: monetary instruments and scenario hypotheses.

This report examines these points and also assesses the risks involved in the current monetary strategy. The main conclusion is that, in spite of taking risks, monetary management remains committed to target and will probably succeed in anchoring inflation expectations.

As a consequence, BCB's speech is likely to be increasingly conservative. Depending on fiscal policy results and current inflation performance, we definitely don't rule out a scenario in which BCB may act preemptively and change policy stance. The institution is prepared to do so. But in our most probable scenario, rates are likely to remain unchanged all over 2011.

In the coming sections, we assess BCB's monetary policy rationale: instruments, scenarios and control variables.

Instruments

One of the possible reasons why BCB has not followed markets' consensus comes from its own theoretical framework with different views on three main controversial points. Regardless of analysts' consensus, BCB probably works with lower neutral real interest rates and higher policy efficiency.

Also, BCB may be following a known rule: under uncertainties, policymakers should be cautious and do less than their optimal policy choice, rather than reacting to the short-term information and adopting preemptive actions. Reputation built on past years' controlled inflation gives BCB freedom to move slowly when information set is scarce.

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Strategist

Neutral real interest rates

Neutral rates are a key element for monetary policy. When interest rate is below neutral level, growth tends to run above potential and, as a result, inflation tends to run above target.

According to BCB's survey, analysts' average for neutral real rates is close to 6.5%, within a 6.0% to 8.0% range. Our estimates are more optimistic and suggest that neutral rates may lie in a 5.0% to 6.0% interval. We use two alternative methods to estimate the neutral rate: a Central Bank reaction function (Taylor rule) and a statistical filter for real interest rates series. Both methodologies yield the same results.

The Taylor rule suggests that neutral rate is the one that makes growth run at the potential and lead inflation expectations to land on target. In the long run, both growth and inflation deviations are close to zero. With these assumptions, policy reaches neutral level at 5.5%, or near 10.0% in nominal values. Alternatively, we may use an approach based on a statistical filter[1]. If we consider a 10 year time series for *ex-ante* real rates, the Hodrick-Prescott (HP) filter points out to long-term levels at 5.4%.

Estimated results are consistent with some evidence, such as permanent changes in economic stability and potential output. The lower the sovereign risk and the higher productivity and potential growth, the lower neutral rates tend to be. In fact, neutral rates correlate positively with sovereign risk and negatively with potential GDP. Furthermore, we can't reject the fact that both variables cause neutral rates (Granger Test).

The sovereign risk trend has changed substantially and mirrors recent economic and institutional improvements (figure 01).

Brazil has been committed to responsible economic policies over the past 15 years. Throughout the last decade, in particular, Brazil has sustained the same economic regime, based on fiscal and inflation targets and on a flexible exchange rate. Consistent economic regime, in turn, allows the country to build a lower solvency risk story, lessening macroeconomic uncertainties and increasing predictability. As a result, monetary policy can better anchor inflation, which probably explains the positive correlation between risk premium spreads and neutral rates.

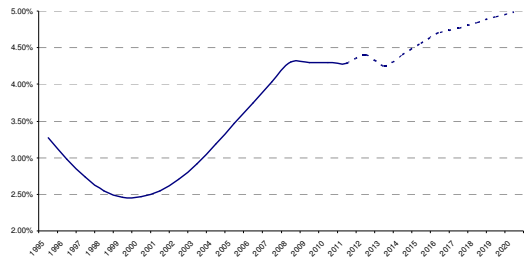
Figure 01: Risk premium spread (JPMorgan's EMBI)

Source: Bloomberg, WestLB Brazil.

Theoretically, productivity and neutral level issue are related, despite rather weak empirical evidence. The higher the productivity, the higher the potential growth and the less intense the Central Bank's reaction tends to be. According to our projections, country's productivity has been increasing over the past years and investment flows may sustain productivity favorable trend.

Additionally, over the past 10 years, potential output has posted a relevant rise, moving from 2% to 4%. We also believe it can go further, up to 5.0% (figure 02).

Figure 02: Potential output (% yoy)



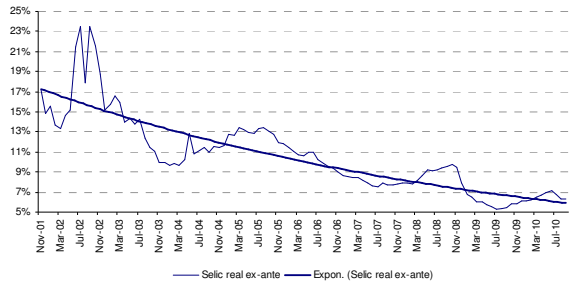
Source: IBGE, WestLB Brazil.

We haven't found any relevant correlation between neutral rates, current account deficit and fiscal results. That said,

[1] See Borio, C., English W., and Filardo A. "A tale of two perspectives: old or new challenges for monetary policy", BIS Working Paper nº 127, 2002.

potential growth and risk premium are likely to act as an anchor for neutral real rates, which suggests that we can possibly sustain recent levels (figure 03).

Figure 03: *Ex-ante* real interest rates



Source: Bloomberg, WestLB Brazil.

Neutral rate, however, is a theoretical concept rather than a precise value, mainly if we assume Brazil's very short stability experience. Due to the great uncertainties about this estimate, it is virtually impossible to build strong calls for neutral rates. As a result, we understand that a range rather than a precise single value is a better approach for neutral rates[2].

The neutral rate analysis has relevant implications for risks that BCB has taken. If we assume that neutral rate is running at 5.5%, roughly close to 10% in nominal terms, then current interest rate (10.75%) is probably either neutral or just slightly on the tight side. But since analysts' consensus is near 6.5% and current environment is very noisy due to political transition and food price shocks, monetary policy stance has been taken as easy, which raise difficulties for Central Bank to anchor inflation.

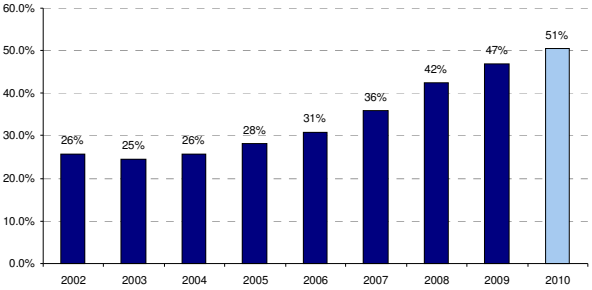
Policy efficiency

Today's required monetary response may be lower than in our recent experience, for we may have been enjoying higher monetary policy efficiency. We base our call on the fact that both credit channel and fixed rate bonds are more relevant today.

[2] Blinder, A. S. "Central banking in theory and practice", The MIT Press, 1998.

In fact, stability increases economic predictability and widens the credit channel. Current total outstanding loans are almost twice as high as they were 7 years ago (figure 04).

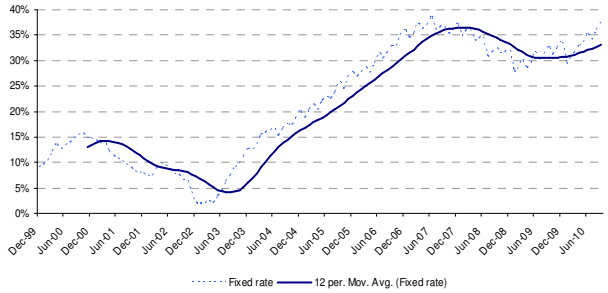
Figure 04: Total Outstanding Loans (% GDP)



Source: Central Bank, WestLB Brazil.

Not only is economy more sensitive to interest rates but public internal debt has also been increasingly financed with fixed rate bonds, which increases monetary policy capacity to affect wealth conditions (figure 05). Solvency, stability, predictability and confidence will possibly sustain recent trend for fixed rate bonds.

Figure 05: Fixed-rates bonds (% total public debt)



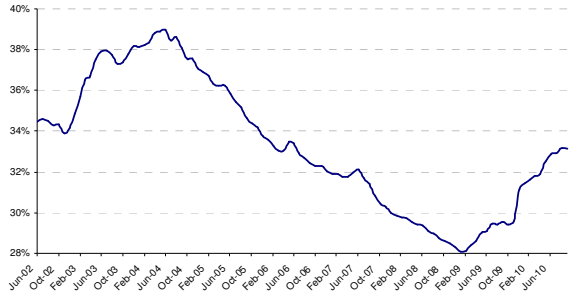
Source: Financial Ministry, WestLB Brazil.

Empirical evidence for the policy efficiency, however, is unclear, which is another risk for the monetary policy. Over the past years, statistical coefficients haven't printed relevant changes. The only exception lies on the negative side: last year's global crisis hit the credit market and reduced coefficients, which points to a lower efficiency.

In fact, after 2009, private credit shrank and government banks started to have a more active role in credit supply.

Hence, monetary policy efficiency tends to fall in the short term: government banks are less sensitive to policy decisions. Nevertheless, past years' efficiency increase will hardly vanish. Part of present government banks' move may last because of the uncertainties on the international banking industry, but those banks' market share is far from reaching their historical highs (figure 06).

Figure 06: Public credit (% total outstanding loan)



Source: Central Bank, WestLB Brazil.

Scenarios

Current BCB's strategy also differs from investors' consensus on scenarios. Apparently, monetary policy plan is compatible with the view that (a) raising inflation comes out on the back of a supply shock; (b) fiscal policy will probably help BCB to anchor inflation during a transition path toward targets and (c) required policy reaction may be less intense now due to a higher potential growth.

Supply shock

This year's inflation has been largely driven by food prices. Food inflation usually runs at a yearly average near 6.0%, lower than this year's level, close to 10.0%. That said, our reading is that this is an adverse supply shock.

Also, over the past quarter, commodity prices have posted a sudden increase caused by the US monetary policy and its ensuing higher global liquidity. Accordingly, BCB's view on a global deflationary risk has changed.

However, we assume inflationary bias emerges in the global economy is bound to be mild owing to a smooth pick-up in commodity prices and a still strengthening trend for the local currency.

In our call, we are far from 2008 experience. That time, global growth was booming, commodity prices were soaring and, together with a higher-than-potential local growth, inflation was running close to target's upper limit.

This time, we have a sluggish global recovery outlook: unemployment rate performance, real income and credit conditions in the US, Europe and Japan are far from regaining lost ground.

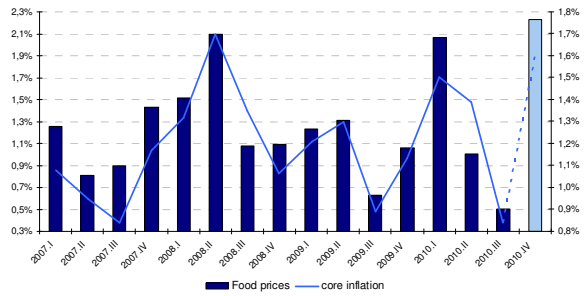
On the other hand, however, fiscal and monetary stimuli are on track and may prevent economies from moving toward a second recession. Fear of bubbles and inflation, together with FED's scenario of a sustaining global recovery, may impose some caution for policy. As a result, we see FED behaving very cautiously on easing policy further, which may prevent economy from reaching an extremely high liquidity level. Controlled liquidity and a slightly stronger global dollar reinforce a mild rebound call for commodity prices.

Currency is one more reason to believe inflationary risks can be controlled. Fundamentals suggest that BRL is likely to keep strengthening: growth and interest rate differentials, lower risk premium and global liquidity may move BRL up. In fact, high global liquidity and Brazil's attractiveness are likely to push capital flows to the country: estimated inflows are higher than country's needs. But our call is not aggressive: the strengthening trend may come in at a much lower pace, since market is increasingly risky due to noises arising from several factors, such as a stronger global dollar, current account deficit; government's interventions; and balance of payment dependence on short-term capital inflows.

But regardless of the scenario we work with, commodity and food prices hikes, though volatile, increase inflationary risks due to their impacts on expectations. Current data has consistently shaped inflation expectations and, unexpectedly, even molded core inflation (figure 07).

On the presence of a food price shock, a policy response is required to reinforce current output convergence and control the impacts on inflation. But how tough should BCB grow?

Figure 07: Food prices (quarterly average) and core inflation



Source: IBGE, WestLB Brazil.

Academic consensus is that when shocks hit the economy central bankers have to be focused on the second-round effects on inflation rather than the impacts on the headline inflation. As a result, flexible inflation targeting implies that the horizon over which inflation should be brought back down may vary[3].

Most importantly, using escape clauses don't mean that the monetary policy has already adopted an inflationary bias. Since deviations from inflation targets and longer convergence periods are usually allowed in as a response to supply shocks, BCB may have accepted a transition path to gradually eliminate the temporary inflation induced by a supply shock.

That's why we believe BCB will probably use target ranges and a longer convergence period for inflation, rather than acting preemptively and trying to bring inflation to targets quickly, with higher costs on growth.

However, the supply shock backdrop and its impacts on policy response is another source of risks for the BCB strategy. BCB has to convince the public that the inflationary impact of a supply shock is only a one-off rise in the price level and not a permanent increase in inflation. This is really challenging these days: we have a political transition; expectations are not anchored; and current shock hasn't implied a relevant and negative impact on output, which could easily justify BCB caution.

[3] Our core view on supply shocks in inflation targeting is based on Mishkin, F.S. "Monetary policy strategy", The MIT Press, 2007.

Fiscal policy

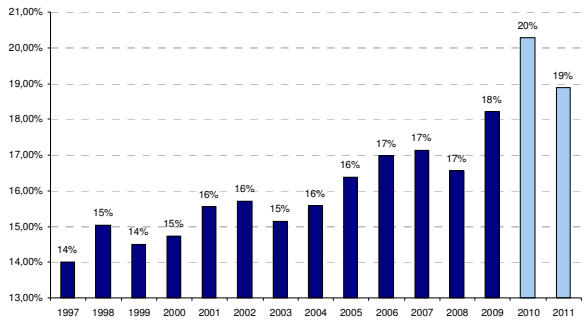
In our view, an economic policy response rather than a change in the monetary policy stance may take place to anchor expectations during the longer inflation convergence and the political transition. New government, rather than the monetary policy, has to build up reputation.

With this in mind, fiscal policy has a key role for expectations. Rather than a solvency problem, central government expenditures are a relevant variable for monetary management.

The idea is that the current easing fiscal spell adds pressure on growth, on inflation and, as a result, on monetary policy. Most importantly, fiscal policy has a credibility issue: past years' performance and the lack of an institutional design to improve transparency and accountability, increase doubts on new government's commitment to responsible policies. That said, government expenditures are relevant to coordinate and anchor inflationary expectations.

In fact, central government expenditures have reinforced inflationary pressures: as share of GDP, expenditures soared from past years' average near 16% to a figure close to 20% in 2010 (figure 08). We estimate this fiscal impulse answers for, at least, 50 bps in this yearly inflation.

Figure 08: Central government expenditures (% GDP)



Source: Central Bank, WestLB Brazil.

But government has both economic and political incentives to post a lower increase in expenditures. Controlling the splurge (a) coordinates long-run expectations and helps

Central Bank to anchor inflation; (b) opens room for higher public investments, higher potential growth and lower interest rates; and (c) reduces the debt/GDP ratio and its pressure on monetary policy. Moreover, we no longer have the global crisis (2009) and the political cycle (2010) to push expenditures up.

Accordingly, we estimate a controlled expenditure increase and a favorable debt dynamics. Expenditures may reach 19% of GDP (figure 08) and the primary result is likely to run close to 3.0% of GDP, lower than target (3.3%). Note, however, that despite a higher fiscal effort, policy stance is expected to remain slightly expansive, since we estimate neutral fiscal policy is close to 3.5%. Solvency risk is also likely to be under control: our estimate for the required primary surplus to stabilize the debt/GDP ratio hovers around 2.4%.

At the end of the day, fiscal management can help BCB to tame inflation by increasing confidence and anchoring expectations. Direct impacts on inflation are low: if we assume our fiscal scenario and stick to our estimates, inflation may fall only 10 bps, or just a little bit higher (30 bps) according to analysts' consensus. In terms of interest rate equivalence, our fiscal adjustment call is close to a 50 bps rate raise.

With this in mind, rather than reducing the impact on inflation, fiscal policy can build up new government's commitment to responsible policies, which is a key element to anchor inflation during a supply shock.

But as fiscal policy reputation has suffered due to the past years' performance, investors' confidence in a timely fiscal adjustment is very low. We assume this kind of uncertainties is an additional reason for current pressures on inflationary expectations.

Potential growth

BCB's reaction largely depends on the output gap size estimate. Output gap, in turn, is based on the call concerning potential growth.

According to a statistical filter (Hodrick-Prescott), potential GDP may be running at 4%. In this case, current output gap is much lower than the one in the last tightening experience (figure 09), which suggests that the required policy reaction is less intense now. But gap may be even smaller, reducing pressures on the monetary policy. We find a higher than 4.0% potential GDP level when using Cobb-Douglas function: potential runs at 4.3% and moves toward 5.0% in the coming years (figure 01).

The Cobb-Douglas function estimates a theoretical upper limit for growth based on the hypotheses for the total factor productivity and for the use of capital and labor stock.

In order to estimate capital increase, we model investment flows and capacity utilization. Investments may reach 21% of GDP in the coming 10 years and we assume the historical upper limit (85%) for capacity utilization (use of capital) as a long-term reference. Also, labor stock may increase due to population growth rate and economic stabilization. We foresee long-term unemployment rate (use of labor) going down to 5.0% for the coming decade. Finally, we assume productivity moving toward 1.5%, significantly higher than the last ten years' average.

Higher estimates depend, obviously, on better hypotheses for capital, labor and productivity. But we assume that government actions to increase productivity and domestic savings are likely to be irrelevant, which implies that current account deficit may remain as the most relevant source of growth financing. We work with neither tax nor social security reforms, nor do we foresee a significant improvement in education quality or in the regulatory environment. Such a backdrop is also a clear constraint for the monetary policy.

Control variables

BCB's strategy is based on non-verifiable assumptions for neutral rates and policy efficiency. Also, due to the current agricultural shock that hit economy, monetary policy credibility depends on the new-government's economic policy as a whole and on fiscal policy in particular.

This strategy carries its risks: monetary policy information set is poor, as assumptions are virtually impossible to be empirically confirmed or rejected in the short term. As a

result, BCB is likely to be data-dependent in order to control its risk exposure. Besides fiscal policy, inflation and growth deviations are likely to be the major monetary policy guidance. And since current readings on growth and inflation are mixed, BCB may sustain its wait-and-see strategy in order to confirm or reject its scenarios before changing plans.

Growth deviation

Local consumption is flying high, with unemployment rate reaching its historical lows. This has been a source of relevant noise for the monetary policy.

But build an overheated-economy call is far from obvious, even though economy is clearly heated. In spite of surprises on the first quarter growth figures, recent results are pointing to an accommodation trend, with GDP running close to potential. Our readings on industrial capacity utilization are also inconclusive: current figures are close to their historical highs, but have consistently run above our estimated output gap.

The same happens with labor market data. Unemployment rate is running at its historical lows and also below the long-term trend (non-accelerating inflation rate of unemployment, Nairu), which we estimate at 7.0%. Such a performance reinforces worries on the output gap and on inflationary risks. A set of anecdotal evidence highlights current labor situation: worker shortage; wage increases; above-trend real income; and non-tradable and services inflation outgrowing target (4.5%).

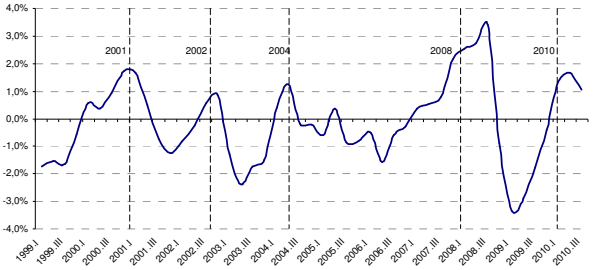
Our core view, however, is that current performance will likely cool down and we should avoid seeing today's low unemployment rate as a herald of future inflationary pressure. Rationale is that GDP strongly explains unemployment rate (Okun's law): over the past years, global scenario and local improvements have moved growth consistently up and unemployment rate significantly down. From now on, however, fiscal and monetary policies are bound to move growth toward potential and, as a result, unemployment rate is expected to reach long-term trend.

Also, not only unemployment rate itself matters, but also the gap between unemployment rate and Nairu. Over the past ten years or so, Nairu has probably fallen, since it correlates with potential GDP. We estimate that potential may have moved up from 2% to 4% while Nairu may have decreased from 12% to 7%. Looking at a 6-month moving average, we can see that this year's gap is not as wide as in other periods.

Regarding credit markets, current pace increase is at 20%, higher than a sustainable long-term growth, which we estimate at 15%. However, a convergence may come as a result of this year's lower monetary incentives, such as liquidity controls and rate raises.

The deceleration rhythm, therefore, may be an issue. But what is clearer in our view is the fact that current growth deviation is lower than in recent hike episodes (figure 09), which suggests that required rate hikes may be less intense now.

Figure 09: Output gap



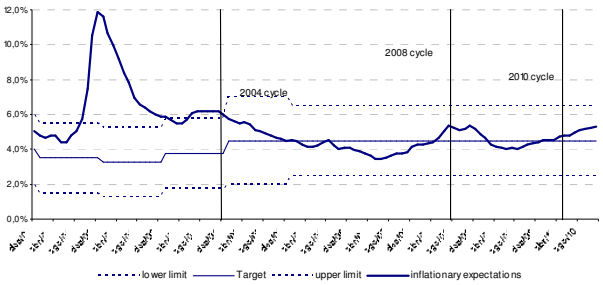
Source: IBGE, WestLB Brazil.

Inflation deviation

If growth deviation has given favorable signs, inflation has emerged as a major problem, as expectations are clearly not converging toward targets (figure 10). Current headline (figure 11) and core inflation[4] deviation are also an issue.

[4] We use an average of three different concepts as a core inflation indicator: core by exclusion, double weight and smoothed trimmed means. Additionally, we filter the core inflation average in order to further clean up short-term noises. What we can see is a smooth and consistent increasing trend over the past 3 years.

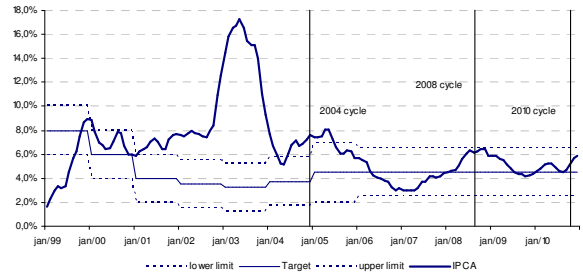
Figure 10: Inflationary expectations (12 months ahead)



Source: Central Bank, WestLB Brazil.

Indeed, in spite of a less risk situation in terms of output gap, inflationary risk is as high as it was in 2008. One possible reason lies in the supply shock effects. In fact, as we can see a relevant correlation among food prices, current inflation, core inflation (figure 07) and inflationary expectations, supply shock may mislead the reading on inflation.

Figure 11: Inflation deviation from targes (IPCA)



Source: IBGE, WestLB Brazil.

Having said that, current above-target data doesn't necessarily mean we have an accelerating trend. IPCA-ex food, for instance, has being running around 3.5% over the past two years. Also services inflation is certainly under pressure due to strong local growth, but current level is close to its yearly historical pattern, which is near 7.0%. One possible explanation for the services inflation performance is based on the fact that structural changes rather the short-term pressures are in place: sustainable growth and lower productivity have changed relative prices. Note that even with the 2009 recession, services inflation ran near 6.5% level.

With this in mind, if the volatile agricultural prices step back, then headline inflation index tends to fall, a sign that current inflation hikes don't hold a sustainable trend.

All in, the supply shock diagnoses suggest that monetary policy has to be cautious and flexible when reacting to volatile prices because inflation may fall regardless of output gap changes. Also, short-term inflation is not a reference to estimate the nominal neutral rate.

Final remarks

Adding it all up, our reading is that BCB may be taking higher risks due to hypotheses on policy instruments and scenarios. Main issues include neutral rates, policy efficiency, inflation diagnoses, fiscal policy and potential growth.

Different from consensus, this framework may explain a less intense monetary policy reaction and the current wait-and-see strategy: BCB may be testing its theoretical and empirical hypotheses, which sustain its initial plan. In particular, BCB may test the temporary nature of the food price shock and the fiscal policy impacts on inflation and expectations.

As a consequence, BCB hasn't followed markets' consensus. Most importantly, BCB's strategy has been translated into an increasing markets' criticism on monetary management, not only because of BCB's framework but also due to current environment: political transition and food price shocks have added uncertainties and made it difficult for BCB to anchor inflation. A very common view is that we have had political interferences, increasing BCB's tolerance to inflation and an inflationary bias policy.

Differences between Central Bank and markets are unusual in our inflation targeting experience. But this shouldn't be a source of relevant noises. Even if we assume that financial markets are a relevant channel for the monetary policy and that its reactions are relevant information for the monetary policy, BCB is supposed to be independent from the market since investors usually overreact to short-term

information flow[5]. That's a commonplace: high frequency data usually pressure central bankers to abandon their plan and adopt more preemptive actions. Depending on the short-term releases, fear of overstaying the policy stance may increase or decrease.

That said, taking higher risks doesn't necessarily mean that monetary policy is no longer committed to targets. A temporarily high inflation resulting from a supply shock is far from a sign that BCB has already destroyed its anti-inflation capital and that monetary policy will probably have, from now on, an inflationary bias. Past years' controlled inflation and consistent monetary policy decisions have built BCB's reputation.

In fact, if inflation starts to move consistently up, then we will have a sign that BCB assumptions were incorrect and monetary policy is very likely to change its stance and tighten further. Changing is always an option, even if you follow a long-term plan.

Despite our call, however, BCB has to improve communication and convince investors that monetary policy doesn't have an inflationary bias: supply shock is only a one-off rise in the price level and not a permanent increase in inflation. BCB has to convey its capacity and willingness to change policy stance in order to reinforce its autonomy and credibility, anchoring expectations.

With supply shock and political transition as a backdrop, we see three main channels to anchor expectations and convey policy's commitment to targets: (a) BCB's supposed scenario has to be confirmed; (b) new government has to deliver a fiscal adjustment and to build credibility and (c) BCB has to convey its clear intention to change monetary stance whenever necessary. As a consequence, BCB speech has to be more conservative and emphasize inflation risks.

Our reading on BCB' possible framework and strategy, therefore, makes us build a scenario in which interest rates remain unchanged in 2011, since we estimate that macroprudential measures[6] and our fiscal adjustment call may be equivalent to a 100 bps rate raise. Fiscal and monetary policies are likely to move growth toward potential and agricultural prices suggest a longer but possible inflation convergence. If assumptions and scenarios prove to be wrong, we work with an alternative outlook with additional 100 bps rate raise in March and April, which opens room to anticipate a rate cut by 2011 yearend.

[5] See Blinder, A S. "The quiet revolution", Yale University Press, 2004.

[6] See Blinder, A S. "How central should the central bank be?", JEL, 2010, 48:1.

Table: Forecasts

	2007	2008	2009	2010 P	2011 P
Real GDP (% yoy)	5.4	5.1	-0.2	**7.5**	**4.5**
Total outstanding loans (% GDP)	36.0	42.5	46.9	**50.5**	**55.0**
Retail sales (% yoy)	9.7	9.1	5.9	**10.5**	**6.0**
Industrial production (% yoy)	6.0	3.1	-7.4	**11.5**	**3.0**
Unemployment rate (% yearly average)	9.3	7.9	8.1	**6.8**	**6.2**
Consumer prices (IPCA, % yoy)	4.5	5.9	4.3	**5.9**	**5.0**
Consumer prices (INPC, % yoy)	5.2	6.5	4.3	**6.5**	**5.1**
Wholesale prices (IGP-M, % yoy)	7.8	9.8	-1.0	**11.2**	**8.5**
Short-term interest rate (% yearend)	11.25	13.75	8.75	**10.75**	**10.75**
Public Sector primary result (% GDP)	3.45	4.07	2.10	**2.8**	**3.0**
Public Sector nominal result (% GDP)	2.75	2.00	3.30	**2.50**	**2.20**
Net public sector debt (% GDP)	43.3	38.4	42.8	**39.8**	**38.3**
Gross public sector debt (% GDP)	58.0	57.9	62.8	**58.4**	**55.5**
Exchange rate units/US$ (end-yr, monthly average)	1.79	2.39	1.75	**1.65**	**1.60**
Exchange rate units/eur (end-yr, monthly average)	2.60	3.24	2.46	**2.20**	**2.10**
Trade balance (US$ bn)	40.0	24.8	24.7	**17.5**	**22.7**
Current account balance (US$ bn)	1.6	-28.3	-24.3	**-50.0**	**-55.5**
Current account balance (% GDP)	0.2	-1.8	-1.5	**-2.5**	**-2.4**
Risk premium, CDS 5 years (bps)	100	345	110	**100**	**80**
Risk premium, EMBI (bps)	215	474	210	**180**	**150**
Net foreign direct investment (US$ bn)	34.6	45.1	21.6	**35.0**	**33.0**
International reserves (US$ bn)	186	207	235	**290**	**310**
US real GDP (%)	1.9	0.0	-2.6	**2.5**	**1.8**
Fed funds rate target (%)	4.25	0.25	0.25	**0.25**	**1.50**

Source: IBGE, Central Bank, WestLB Brazil.

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Please report questions concerning views or recommendations in this report to the following analyst:

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