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The Emerging Market Crisis of 2015 or the Third Stage of the Global Financial Crisis

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I would like to take this opportunity to reflect on the state of emerging markets today, with specific reference to the challenges faced by Brazil. I will also make some comments about our current monetary policy guidance.

Let me begin by making a bold statement that I will leave largely unsubstantiated. I believe that when economic historians look back at 2015 they will regard the current turmoil in emerging markets (EM) as the third stage of the Great Financial Crisis (GFC). Much like the first stage of the crisis that afflicted the United States, and the second stage centered on the Euro area, we have seen in EM periods of irrational exuberance leading to what now looks like excessive credit creation. Credit levels that initially “look ok” become problematic when growth slows and optimistic expectations are not met. The irony is that many of the balance sheet issues now afflicting emerging markets, and mostly concentrated in the corporate sector², began after the first stage of the crisis, and were one of the reasons for the “V-shaped” global recovery that followed.

Looking back at EM growth and expectations immediately following the first stage of the GFC, we can see why investors and bankers were happy to lend into EM. What is less clear is why they continued to lend into EM even as growth expectations were revised lower year after year (Figure 1).

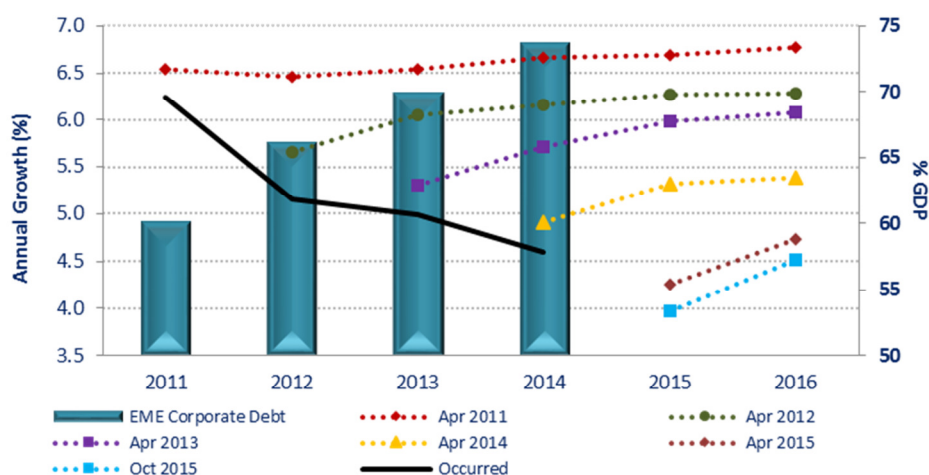
I think the solution to this puzzle lies in thinking about “push” versus “pull” determinants of EM capital flows³. While the growth “pull” factor has deteriorated steadily since 2011, the “push” factor of central bank balance sheet expansion in advanced economies (AE) and the resulting “search for yield” fueled continued lending to EM despite worsening economic fundamentals.

¹ Deputy Governor, Central Bank of Brazil (BCB). These remarks are those of the author and do not necessarily reflect those of the BCB.

² The IMF has concluded that global factors have been the most important in driving EM corporate sector leverage higher in the period after the start of the GFC, see IMF (2015b).

³ For some recent work on this topic, see Cerutti, Claessens and Puy (2015) which confirms that individual characteristics of a country’s financial market may matter more than fundamentals in determining the size and impact of gross capital flows, especially bond flows.

Figure 1 – EM: IMF Growth Forecasts vs. Actual and Corporate Debt as a % of GDP



Source: Output growth data from IMF (WEO publications) and corporate debt from IMF (2015b). Note: Major EMEs (IMF classification). Debt includes bank credit and bond financing. Credit by nonbanks is excluded.

As Tolstoy famously said, “All happy families resemble one another, each unhappy family is unhappy in its own way”. Therefore, while all EM crises share some similarities, each has their own specific dynamics, which we need to appreciate. Let me outline where I think things are different this time, using Brazil as the example.

Let’s begin by looking at a stylized, “typical” EM crisis⁴. Let’s say after a period of strong growth that some global exogenous factor leads to a drastic, unexpected fall in capital inflows, a “sudden stop” as defined by Calvo⁵. If a large part of the country’s liabilities is foreign currency denominated, the necessary equality between the capital and current accounts will be met by a drastic fall in aggregate demand pushing the current account lower, which will occur in part via a rapid devaluation of the currency. If the country has a large part of its liabilities in foreign currency, if it suffers from “original sin” in the sense of Eichengreen and Hausmann⁶, then the devaluation will increase the debt burden in local currency terms. To make things worse, we would expect to see a Keynesian “fallacy of composition” take hold as individuals look to hedge their currency risk, which in turn accelerates the depreciation and worsens the aggregate debt burden. This vulnerability may also lead to a full-blown

⁴ In the present case of Brazil, it might be more accurate to have an unexpected drop in terms of trade and falling potential output growth as the initial exogenous shocks, but anything that precipitates a fast realignment of aggregate demand and supply affecting asset prices could generate propagation through weak balance sheets.

⁵ See Calvo (1998).

⁶ See Eichengreen and Hausmann (1999).

“speculative attack” on the currency. At this point, it becomes increasingly likely that many segments of the economy, including the government, could face the risk of insolvency⁷.

What is interesting here is how the usual mechanisms of economic adjustment breakdown. We usually think of economic shocks as *dampening* over time and being *absorbed* by the economy through mechanisms of adjustment. Instead, what we see here is that without sufficient liquidity to manage the speed of depreciation, the original shock is *amplified*, and when combined with preexisting balance sheet fragilities the original shock is *propagated*.

Of these two “evil twins”, the more dangerous is propagation. In fact, this is exactly what happened in the first stage of the GFC, namely what started off as an overdue correction in the US real estate market was propagated by opaque and over-leveraged bank balance sheets into a full-blown global financial crisis.

In the case of our hypothetical EM example, the ability to manage the sudden stop is severely curtailed by the lack of liquidity, which coupled with the fragility created by “original sin”, allows a capital account shock to spiral out of control, creating a balance of payment crisis followed by a solvency crisis.

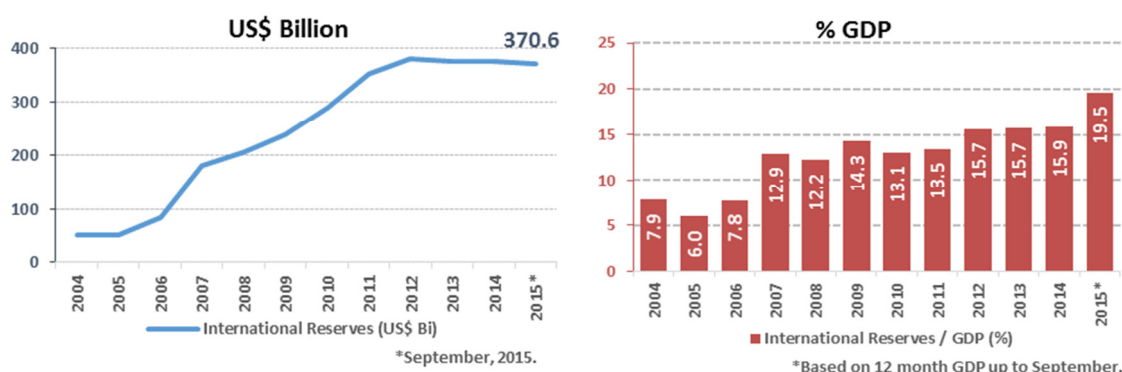
The “this time is different” good news for many EM lies in the fact that many countries have more robust *liquidity buffers* and less fragile balance sheets without the *triggers* that have in previous crisis periods amplified and propagated shocks. Let’s look at this in the case of Brazil.

Brazil today has two very important and large liquidity buffers, which can be used to mitigate the impact of shocks. The first is the levels of international reserves currently at US\$371 billion or almost 20% of GDP (Figure 2), and which are ample by a variety of standard metrics. For example, using the IMF’s composite reserve adequacy measure, Brazil currently has around 190% of what the Fund would recommend as an adequate level of foreign reserves⁸.

⁷ The banking sector may be the ready conduit for the crisis to propagate, as in the “twin crisis” literature, such as Kaminsky and Reinhart (1999) and Velasco (1987). In the present case, as we mentioned above, concerns have been concentrated on corporate, not banking, balance sheets, but the mechanisms are similar. Also, despite much of this literature assume a fixed exchange rate regime, the same destabilizing balance sheet dynamics can occur under floating exchange rates.

⁸See Brazil 2014 Article IV Consultation – Staff Report p. 35.

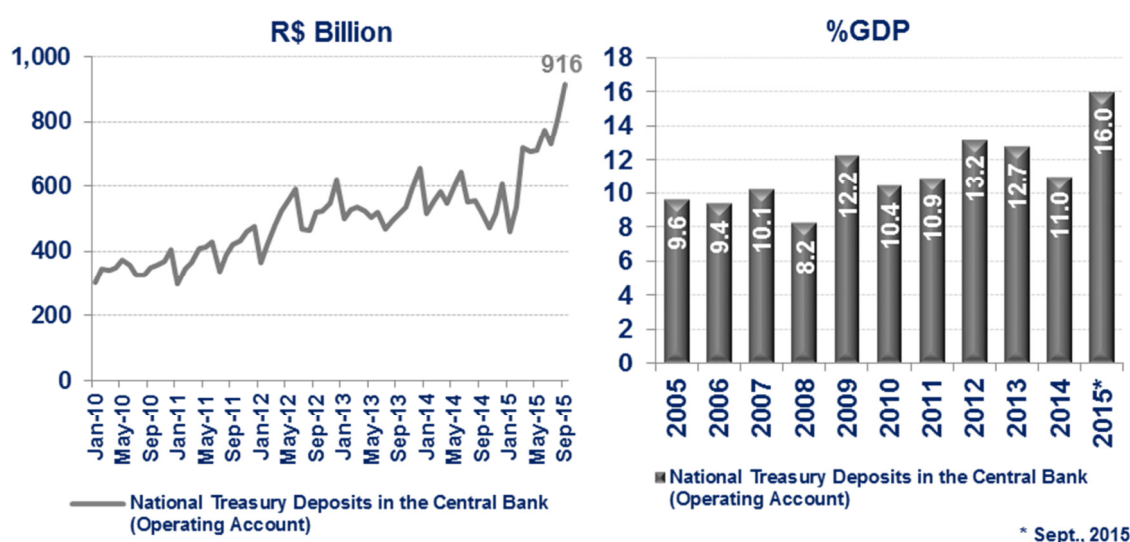
Figure 2 – Evolution of International Reserves



Source: BCB. Note: International liquidity concept.

The second, and less well known, is the cash position of the Treasury which stands at almost R\$1 trillion or 16% of GDP (Figure 3), and provides substantial flexibility in managing both local debt maturities and interest rate volatility.

Figure 3 – Operating Account (National Treasuries Deposits)



Source: BCB.

In addition to these more traditional liquidity buffers, Brazil has the unique ability to leverage its reserves and offer BRL- denominated hedging instruments, structured as swaps⁹. This allows for a transfer of the Central Bank of Brazil (BCB) foreign currency exposure to the private sector without the liquidation of reserves. In times of currency volatility, this instrument can directly address the potential problems that may arise from the structural position of the private sector which is long BRL (being the other side of the BCB's international reserve position). The unbalanced private sector FX position causes the provision of FX

⁹ See Garcia and Volpon (2014).

hedges to be socially suboptimal – it becomes very expensive to hedge currency risk when the market is “long”. If nothing is done and hedging expenses become prohibitive, the result may be capital flight, corporate balance sheet stress and further - potentially accelerating - currency depreciation. By “swapping out”, at a competitively determined price, its long hard currency exposure to the private sector, the BCB assures that the “public good” of financial stability is adequately provisioned, something the market is incapable of doing by itself. Any assessment of the fiscal cost of the swap program needs to take this into account.

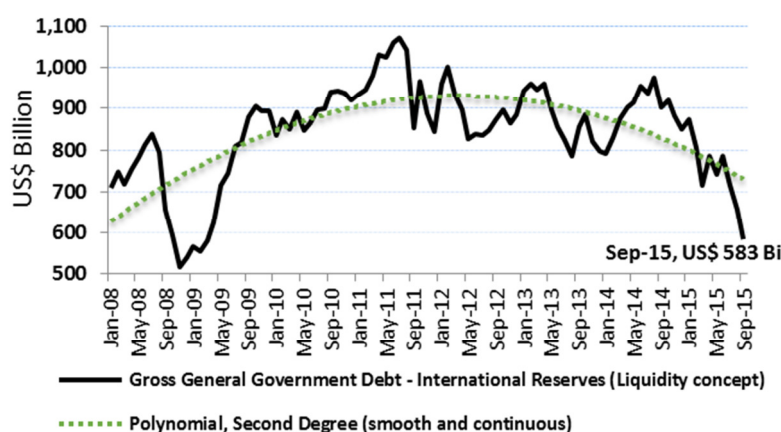
Buffers are important, but as I argued above, historically the more worrisome problem has been balance sheet fragility and the triggers that propagate shocks. Let’s look at this from two different angles - that of the public sector and the economy as a whole.

In the example above, the key interaction was between devaluation and debt levels. Of course, in the case of the public sector, other factors affect the stock of debt, most importantly the (flow) fiscal deficit. In the case of Brazil, we have seen both a large devaluation of BRL and a rapid increase in the nominal deficit. What has happened to the public sector’s balance sheet?

There is some debate as to the right way to look at the balance sheet of the public sector and, of course, the key is to use the right metric for the purpose at hand. I believe the right metric for our purpose is gross debt minus international reserves, as it captures the impact of both the fiscal deficit and BRL movements.

As we can see, so far this measure shows public indebtedness falling, not rising, despite the rapid rise in the nominal deficit (Figure 4).

Figure 4 – Gross Debt minus International Reserves



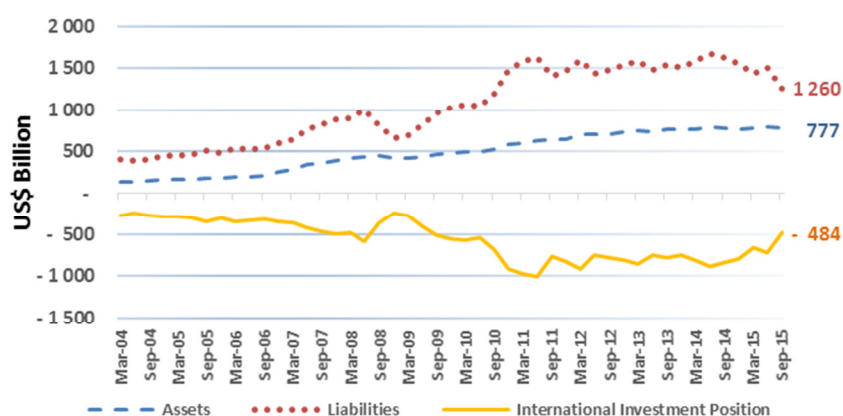
Source: BCB.

Here we see the importance of robust international reserves: they function both as a liquidity buffer and as a counterweight to the expansion of public debt, defusing what could otherwise be potentially explosive dynamics.

In this latest EM crisis, much attention has been paid to the possibility that the greatest vulnerability lies in the private sector. Is this where we see dangerous fragility for Brazil? Given the BCB's capacity to "swap out" or lend its exposure to hard currency to the private sector, I think the best way to answer this question is by looking at the economy's international investment position, or the accounting of all hard currency assets held by Brazilians abroad – including both the public and private sector – and all liabilities held by foreigners.

As of September of this year, overall liabilities were on the order of US\$1.26 trillion with assets at US\$777 billion, giving Brazil a net liability position of US\$484 billion (Figure 5)¹⁰.

Figure 5 – International Investment Position (Net Assets)



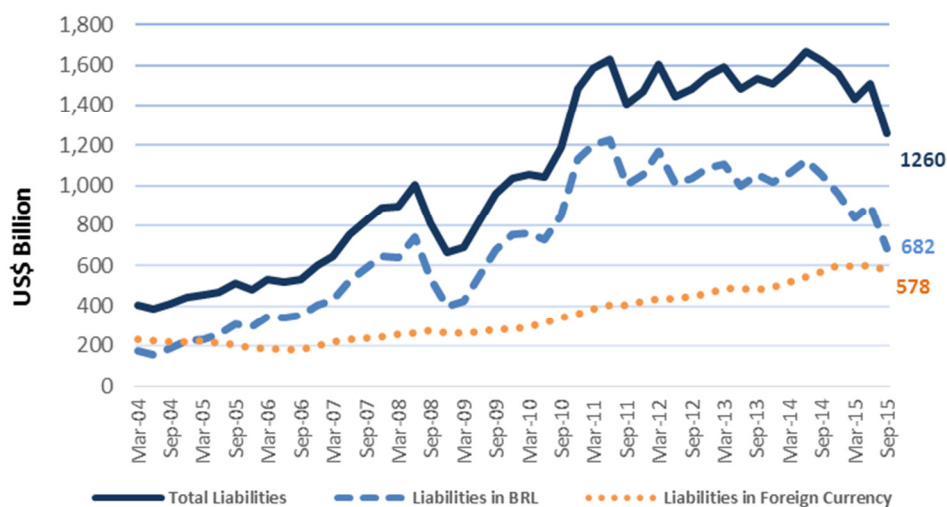
Source: BCB.

The salient point here is the different denominations of these assets and liabilities. On the asset side, we find the public sector holds about US\$363 billion, mostly reflecting liquid international reserve assets. In this regard, the Brazilian private sector holds around US\$414 billion in assets, including US\$303 billion in FDI.

On the larger, liability side of the ledger, we have a preponderance of BRL denominated "variable payment" investments, such as US\$399 billion in FDI and US\$283 billion in portfolio investments, of which only US\$116 billion are fixed income liabilities. In this sense, it is important to highlight that the trajectory of overall liabilities is dominated by the dynamic of liabilities in BRL (Figure 6).

¹⁰ The historical series of international investment position are available at <http://www.bcb.gov.br/?IIPH SERIES> and last values at <http://www.bcb.gov.br/?FOREIGNSECTOR>.

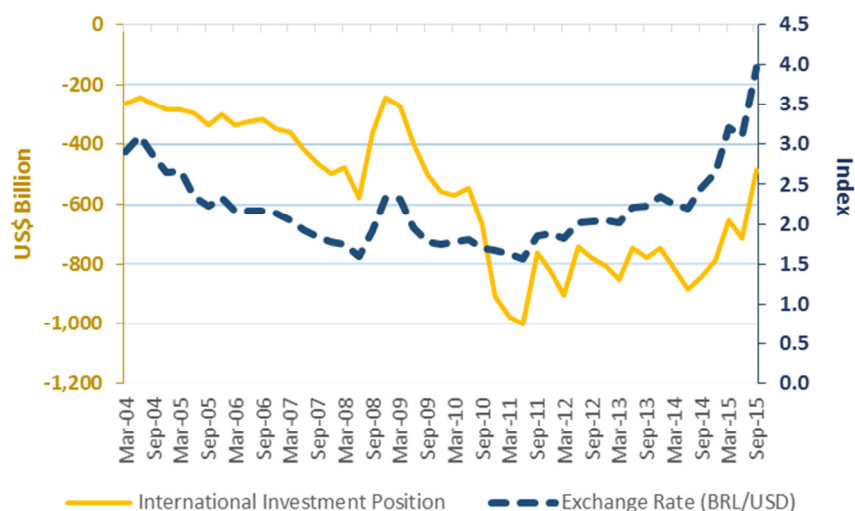
Figure 6 – Liabilities Composition



Source: BCB.

As a result, another positive way in which “this time is different” is that the local currency denomination of the liabilities means that the net investment position actually improves as the exchange rate weakens¹¹ (Figure 7).

Figure 7 – Correlation between International Investment Position and Exchange Rate



Source: BCB.

¹¹ The correlation between the international investment position and BRL was 0.78 for the period 2004-2010 (quarterly data) and increased to 0.85 for 2011-2015 (data until the third quarter).

The “variable payment” part is also worth noting as, for example, companies can choose to stop paying dividends – we have already seen this as a factor in the recent large improvement in the current account deficit. Therefore, for the economy as a whole, like for the public sector specifically, currency depreciation does not trigger explosive balance sheet dynamics.

I think these facts are important to keep in mind when thinking about the recent debate around the issue of fiscal dominance. This may mean different things for different people, but here is a stylized account that I think is relevant for an economy like Brazil with a large local debt stock held by foreign and local investors, sophisticated financial markets with no financial repression and an open capital account.

Let’s say inflation is above target and the nominal deficit is high and rising. In this situation, one can imagine the following scenario. In an attempt to control inflation, the central bank hikes the policy rate, increasing the nominal deficit. With diminished expectations of future fiscal improvement, the rise in the debt stock, caused by higher rates, leads investors to estimate a higher probability of future measures to decrease the debt burden, either through higher inflation, confiscatory taxation or restructuring. Fearing future capital losses, investors sell their bonds and, given an open capital account, they buy foreign currency. The subsequent depreciation is so intense that its inflationary impact is larger than any contractionary impact of a higher policy rate.

This is a simplified scenario and one may wish to tell a more complicated story, but it captures what I think could happen as a limiting case. The main point is that any holder of a nominal bond who believes that monetary policy has become truly impotent would “sell and leave”. So while I can imagine many other situations where deficiencies in fiscal policy complicates the task of monetary policy, I believe the term “fiscal dominance” should be reserved only for an extreme scenario where changes in the policy rate become truly impotent in controlling inflation due to capital flight and extreme currency weakness that offsets the impact of higher rates.

While I don’t in any way deny the importance of sound fiscal policy for effective monetary policy, the fact that we are not seeing the type of capital flight and currency depreciation one should expect in a state of fiscal dominance means that in effect there is no fiscal dominance in the case of Brazil. And this is true, in part, because of the large liquidity buffers available to manage currency depreciation and the lack of unstable and fragile balance sheets that can assume explosive paths. I think the lesson here is that for the relevant investment and policy horizon stock positions – or balance sheet composition – may be more important than flow measures such as the fiscal deficit.

Let me make two final observations about these issues, one about Brazil and one about EM more generally.

If we look at the last two serious crisis periods in Brazil, 1999 and 2003, we see that in both cases the crisis resulted in very substantial and front-loaded fiscal adjustments. In both cases, Brazil had much smaller liquidity buffers and more fragile balance sheets. The risk that I see in our present circumstance is that the very existence of large liquidity buffers and sound balance sheets could, ironically, work against the necessary sense of urgency in undertaking vital fiscal and structural reforms.

Lastly, if EM in some ways helped to “save” the global economy during the first, and most intense, stage of the GFC, but now is paying the price as growth slows, who will save EM – and the global economy? Can we rely solely on the hopes that the still uncertain and tepid recovery in AE will do the job? Or could we, by entering the latest stage of the GFC potentially be entering the most prolonged phase, as there are no balance sheets left to lever in the global economy?

The answers to these questions will depend on the choices we make now. If the central banks of key reserve currencies ignore the global impact of their decisions, and if key global policy makers do not find ways to coordinate efforts and pool resources, then I am afraid a pessimistic outcome is likely. Let’s work very hard for that not to happen.

Let me finish by saying a few things about our recent monetary policy decision.

As we are all aware Brazil has seen a great deal of uncertainty concerning fiscal policy over the last few months. This has had an impact on key asset prices and inflationary expectations. At the same time, we have witnessed a further opening of the output gap.

The political process in Brazil will lead to some resolution of the fiscal question over the next few months. Unfortunately, at this juncture, it is not possible to say what such a resolution will mean for the inflation outlook.

Nonetheless, we already know from our forecasts that the recent changes in asset prices and inflation expectations will likely have a larger negative impact on the inflation outlook than will the impact of the output gap. In this situation, we believe that the optimal monetary policy response within our flexible

inflation targeting framework is to recalibrate the path of convergence of inflation to target while reaffirming our vigilance¹².

While in the face of such large, unexpected shocks this recalibration is likely to be optimal for the economy, it is not costless in terms of institutional credibility. Consequently, I believe we have reached a point at which longer run considerations call for a determined response on the part of monetary policy to any further shocks to relative prices, assuring a convergence to target within the relevant policy horizon.

I believe we should work to assure convergence of inflation to target as soon as possible within the current monetary policy horizon. I also personally believe we should adopt a more precise guidance as to when we expect convergence to target to occur once we see sufficiently diminished uncertainty around the key exogenous variables that condition the inflation outlook.

Thank you for your time.

¹² In the face of "cost-push" shocks that shift aggregate supply negatively, impacting inflation and growth, the optimal policy response given a well-defined loss function is a history-dependent commitment to run tight policy in the future that minimizes, but does not fully neutralize, the impact of the shocks on inflation. I believe our new guidance follows this principle. See Woodford (2003) p. 495 for a discussion.

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