# *Can sterilized foreign exchange purchases be expansionary?*

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In Brazil, the purchase of foreign exchange reserves through sterilized interventions has been the object of several criticisms, including my own. The fiscal cost of maintaining reserves amounting to US$ 320 billion is more than R$ 50 billion, exceeding total budget savings promised by the government for this year. Moreover, under current circumstances, sterilized interventions have the merely temporary effect of depreciating the nominal exchange rate. In order to have a permanent effect, the Brazilian Central Bank (BCB) must continue its purchases, further increasing the reserves' already extremely high cost.

Economists usually suppose that sterilized interventions do not alter aggregate demand. In the first step of a sterilized foreign exchange purchase, the BCB purchases USDs with BRLs, increasing the monetary base. The second step involves withdrawing the BRLs it has issued from circulation by selling government bonds. Thus, the sterilized purchase of foreign exchange induces an exchange of dollar assets for domestic government bonds in the private sector's portfolio, without issuing any money. Therefore, there is no reason for aggregate demand to expand.

In contrast to this usual supposition, I argue in a recent article (*Can Sterilized FX Purchases under Inflation Targeting be Expansionary?*, Discussion Paper # 589, Department of Economics, PUC-Rio[2]) that it is probable that the BCB's sterilized foreign exchange purchases have indeed been having an expansionary effect on aggregate demand and consequently on inflation. This is due to the way sterilized purchases are undertaken under inflation targeting.

In the previous description, the sterilized purchase of foreign exchange does not produce any monetary issuance, and merely involves the exchanging of dollar assets for domestic government bonds. However, this is not exactly how sterilization is performed under inflation targeting. In the second step, when the BCB exchanges for government bonds the money it has issued to purchase the dollars, it does so up to the point where the Selic rate established by the COPOM (Brazilian monetary policy committee) is restored, which does not necessarily assure the repurchase of all money issued. If aggregate demand has increased—and with it the demand for money—the interest rate will be re-established before all the money issued has been repurchased. In other words, the way sterilization is usually conducted by central banks, in which the interest rate remains unchanged, may end up expanding the money stock.

But why would aggregate demand increase? Basically, because the recent flows of capital to the Brazilian economy have been destined to financing the private sector's

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[2] http://www.econ.puc-rio.br/PDF/td589.pdf .

consumption and investment expenditures, rather than purchasing government bonds. One way of analyzing the effect is that capital flows constitute an arbitrage between high domestic financing rates and the low rates prevailing abroad. The larger amount of credit at lower rates expands aggregate demand. Simply restoring the rate of interest that existed before the capital flows is not neutral in terms of stimulating the economy. Even if rates return to their initial level, sterilized foreign exchange purchases will have led to net monetary expansion. The greater supply of money will equal the new and higher demand for money generated by the combination of the same rate of interest with a higher nominal output.

Another way of interpreting this effect, using a portfolio balance framework à la Tobin, was suggested to me by some economists[3]. Sterilized foreign exchange purchases increase the share of government bonds in the private sector's portfolio. To induce this portfolio change it is necessary to alter assets' relative returns, raising the return on government bonds (Selic rate) vis-à-vis the others. As the CB acts to keep the Selic rate unchanged, it is the returns on other assets that must fall, which is equivalent to increasing their price. That is, faced with sterilized interventions, private agents try to recompose their original portfolios, increasing the demand for other assets which raises their price and Tobin's Q, thus expanding aggregate demand.

According to the above interpretation, the sterilization of the foreign capital flows that seek to take advantage of the high rates of interest paid on Brazilian government bonds does not have an expansionary effect, because, in this case, there is an increase in external demand for government bonds. When foreign demand for government bonds rises, the increase in the supply of government bonds due to sterilization does not have the effect of altering the relative returns on the economy's various assets. In contrast, the inflows that finance private sector expenditures—including not only external credit, but also foreign direct investment, primary and secondary stock purchases and other types of financing—do generate an expansionary effect.

The figures for the Brazilian economy in 2010 seem to corroborate the importance of sterilized interventions' expansionary effect. The monetary base increased by 25% (R$ 40 billion), while sterilization purchases amounted to R$ 80 billion. Credit became more plentiful and cheaper, leading the government to resort to macro-prudential measures to restrict credit supply growth.

In sum, sterilized interventions not only constitute a very expensive and inefficient way of curbing currency appreciation, but also expand aggregate demand, making it even more difficult for the CB to fulfill the inflation target. It is time to rethink this policy and once again consider implementing long-term fiscal consolidation.

[3] I am grateful to Eduardo Loyo and Samuel Pessoa for having pointed out this/alerted me to this alternative interpretation regarding the expansionary effect of sterilized interventions.