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Argentina: The Central Bank in the Foreign Exchange Market

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It is the beginning of 2007 and the issue of the Argentine Central Bank's intervention in the exchange rate market continues to be confusing for the public and also for many economists. Articles in the press are not very helpful and there is a worrisome lack of technical papers on the subject. Taking advantage of the summer break, I will try to entertain the reader with a somewhat technical contribution on this issue.

The Central Bank intervenes in the foreign exchange market by buying foreign currency to maintain a certain exchange rate and to accumulate international reserves. The first thing to understand is that with these interventions, the Central Bank does not lose control over the money supply or the short-term interest rate. Certainly, the Central Bank causes an expansion of the monetary base when it buys dollars – which would induce a decline in the interest rate. But it can fully compensate for this expansion – and consequently keep the interest rate unchanged – by absorbing the increase in liquidity generated by the intervention in the foreign currency market. This is called a fully sterilized intervention.

The Central Bank and the Treasury of Argentina have been absorbing the expansion generated in the exchange market through various means. However, to take the extreme version of the argument, let's assume that all absorption is carried out by the Central Bank through the issuance of securities—our Lebacs (bills) and Nobacs (notes) in Argentina.

The excess supply of foreign currency in the market – at the exchange rate that the Central Bank wants to maintain and at the current domestic interest rate – is equivalent to an excess demand of assets denominated in Argentine pesos. We can imagine a fully sterilized intervention as an operation in two steps. In the first step, the Central Bank buys the excess supply of dollars and expands the monetary base. The result would be an increased money base, an unchanged quantity of interest-bearing domestic financial assets, and a lower domestic interest rate than the initial one.

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In the second step, the Central Bank sells financial assets by exactly the same amount as the initial excess in demand – thus increasing the quantity of domestic assets by that amount – and absorbs the increase in the monetary base, causing the interest rate to return to its original level.

Through these operations the Central Bank compensates for the change in the private sector's portfolio. The private sector wanted more domestic assets, and in exchange offered assets in foreign currency. In the absence of an intervention by the Central Bank, prices would have to adjust. But instead, the Central Bank supplies the domestic assets being demanded and ends up with more foreign assets, leaving prices (the exchange rate and the interest rate) unchanged.

A fully sterilized intervention through the purchase of foreign currency is possible at any moment in time. But is it possible to do this indefinitely? Not always. It depends on the interest rate on foreign reserves, the domestic interest rate and the change in the exchange rate. If the domestic interest rate is too high relative to the sum of the international interest rate and the growth rate of the exchange rate, the Central Bank can face increasing sterilization costs and lose control of the monetary variables. This is not the case in Argentina: due to reasonable domestic interest rates, the sustainability of a sterilization policy is not an issue.

To further illustrate the argument, let's consider some figures for the Argentine economy. To simplify matters, we will use approximate values for the main components of the Central Bank's balance sheet.

First, let's take a look at the actual cost of sterilization. The Central Bank's liabilities (bills and notes) amount to 40 billion Argentine pesos (ARS), which pay approximately 10 percent in interest. Consequently, the financial cost per year of these liabilities represent about ARS 4 billion. On the other side of the balance sheet, international reserves amount to some USD 31 billion (around ARS 96 billion). The return (in pesos) on these reserves is approximately 7 percent. This return is composed of the international interest rate obtained on the reserves (4 percent) plus an annual 3 percent for the growth rate of the nominal exchange rate. Thus, the reserves yield an annual return of ARS 6.7 billion. As can be seen, ARS 6.7 billion is more than ARS 4 billion. Income generated by the reserves is higher than the financial cost of the sterilization securities.

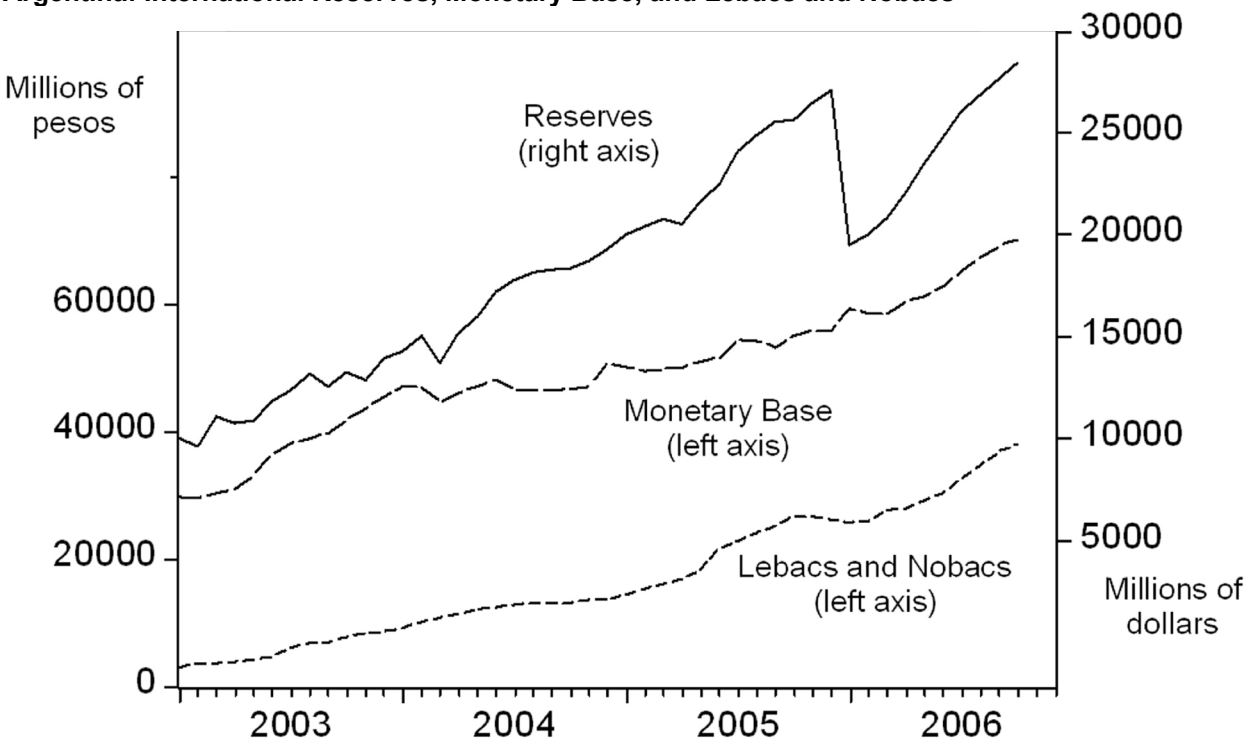
But if the relevant domestic interest rate (10 percent) is higher than the sum of the international interest rate and the growth rate of the exchange rate (7 percent), why does income turn out to be higher than costs? Logically, it is because the Central Bank's sterilization liabilities are less than the reserve assets. One reason for this difference is that the Central Bank can (and must) also issue another type of liability, the demand increase for the monetary base, which does not bear interest but which is also demanded. This issuing of base money is called seigniorage and is subtracted from the sterilization needs. Currently, the existing monetary base represents some ARS 70 billion. If the demand for monetary base grows at the same pace as nominal GDP (unit elasticity), a 20 percent increase in nominal GDP – more or less like the one we had in 2006 – represents an increase in the demand for base money of ARS 14 billion.

Taking into account the previous considerations, we are now able to sketch out the results of a full sterilization in 2007, assuming that the Central Bank buys USD 10 billion during the year. We also assume a nominal GDP growth of 17 percent (less than in 2006). The purchase of dollars mentioned above would mean an expansion of the monetary base of approximately ARS 31 billion. The interest

payments on the existing sterilization securities (10 percent of ARS 40 billion) represent an additional ARS 4 billion in base expansion. In order to calculate the sterilization requirements, to those ARS 35 billion in base expansion, one must subtract ARS 12 billion that correspond to the increase in monetary base (with a unit elasticity of GDP, this is the 17 percent of the current base stock of ARS 70 billion). The result is a need for sterilization of ARS 23 billion. At the end of 2007, the sterilization liabilities would reach ARS 63 billion and international reserves would be approximately USD 42 billion.

Note that at the end of 2006, the ratio of monetary plus sterilization liabilities to international reserves was 1.15 (ARS 110 billion in liabilities / ARS 96 billion in reserves). Assuming a 3 percent increase in the exchange rate and a 4 percent return on foreign investments, this ratio would be 1.08 by the end of 2007 (ARS 145 billion in liabilities / ARS 134 billion in reserves). Could anyone please tell me where the problem is?

FIGURE 1
Argentina: International Reserves, Monetary Base, and Lebacs and Nobacs



Source: Central Bank of Argentina (Banco Central de la República Argentina)