Problems of Plenty? Challenges and Opportunities from the Accumulation of Large Foreign Exchange Reserves and Windfall Revenue

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Introduction

• Large reserves may be perceived as a sign of a solid financial position, and thus facilitate access of both public and private issuers to international capital markets by lowering the cost of external financing through higher credit ratings.

• Furthermore, reserves provide the central bank the degrees of freedom needed to intervene (or signal the capacity to do so) in the foreign exchange market to offset imbalances in the supply/demand of foreign currencies or transitory speculative pressures.

• But, large reserves also have significant costs to the economy. Such costs include opportunity costs (return obtained from the most productive alternative use of the foreign currencies) and financial costs (related to the difference between the interest rate paid for the liabilities issued to sterilize the monetary impact of reserve accumulation and the return obtained from the management of such assets).

• Once reserves reach a certain level, the costs of further accumulations outweigh its benefits. Under these circumstances, authorities need to adjust its policies in order to reduce such costs. Options available include the adoption of a strategy for managing sovereign assets and liabilities denominated in foreign currencies and the implementation of more aggressive reserve investment guidelines, including setting-up an independent asset management corporation.
**Agenda**

• Mexico’s International reserves compared with commonly used adequacy indicators.

• Challenges of large reserve accumulation.
  • Sterilization
  • Costs

• Policies to reduce the cost of holding reserves.
  • Increase asset returns
  • Limit the growth of reserves
    • Mechanism to reduce the pace of reserve accumulation
    • Coordinated strategy to manage sovereign asset and liabilities denominated in foreign currencies.

• Final Remarks
*International reserves in Mexico have doubled during the last four years...*
Sources of International Asset Accumulation

cumulative flows, billion of US dollars

...mainly due to historically high oil revenues...
... to levels that significantly exceed those of commonly used adequacy measures.

**International Reserves / M2**
(%, 2005)

Source: IMF

**Short Term Debt**
(% of International Reserves, 2005)

Source: IMF
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The increase in reserves has outpaced that of the monetary base. The excess liquidity has been sterilized with new instruments.

Reserve Accumulation vs Monetary Base Growth

cumulative flows, billions of mexican pesos
Instruments used: a compulsory remunerated deposit and a bond issued by the central bank.

Monetary Regulation Bonds (BREMS) and Compulsory Deposits
amounts outstanding, billions of Mexican pesos
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Unlike other countries, the main challenge for Banco de Mexico has not been the sterilization of excess liquidity but the “carry cost” of the reserves.

Thus, the central bank’s balance sheet is not only exposed to a yield differential between assets and liabilities but also to movements of the domestic currency.
Banco de Mexico has posted income losses for the last two years. The lack of revenue to the Government could potentially undermine the central bank’s autonomy.

Income Results, Yield Differential and Exchange Rate Movements

billion of mexican pesos, per cent per annum, percentage
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In order to reduce the cost of holding reserves, central banks can change the reserve management guidelines to increase returns.

a) Raise the duration of the portfolio.
   Added volatility of returns for a given period of time.

b) Addition of alternative asset classes. (ABS, MBS, Agencies, Corporate Bonds, Emerging Market Bonds, Equities)
   i) Strengthen front, back and middle offices’ capabilities, or
   ii) Outsource part of the reserves to external managers.

c) Encourage more aggressive use of active management strategies.
   i) Develop necessary skills among the staff.
   ii) Implement an adequate remuneration scheme to align incentives and avoid excessive personnel turnover.

⇒ INCREASED YIELD WILL COME WITH HIGHER RISK. POSSIBLE REPUTATIONAL RISK PROBLEMS COULD COMPROMISE THE CENTRAL BANK’S CREDIBILITY.
Recently, the yield required from FX reserves management (abstracting from local currency appreciation) to cover costs has been high relative to the yield to maturity of traditional assets.

Dynamics of local interest rates and yields of various asset types

Per cent per annum

The average duration of the AAA-rated US Treasuries and Agencies Portfolio is 2 years. The average duration of the A-rated Corporate Portfolio is 5.7 years.
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• Final Remarks
Although there is controversy regarding the optimal level of reserves, in Mexico further increases in international assets would have had small marginal benefits and required a substantial economy-wide savings effort.

a) The scope for further credit rating upgrades is limited unless other structural reforms (labor, energy, fiscal) are taken.

Long Term Foreign Currency Debt Credit Rating

1996
S&P: BB
Moody’s: Ba2

2006
S&P: BBB
Moody’s: Baa1

3 notches
4 notches

b) The floating exchange rate regime, in place since 1995, does not require a large amount of international reserves.

c) Reserves are larger than the amount of public external debt outstanding.
In 2003, Mexico implemented a non discretionary mechanism to limit the pace of reserve accumulation.

- Through this mechanism, part of the flows that could potentially increase reserves is channeled to the FX market through daily auctions of dollars in which the price is determined competitively.

Hypothetical Quarterly Reserve Accumulation

It was determined that not all the net accumulation was to be sold to the market since that would have signaled a specific level of desired reserves. Additionally, in terms of reserves, it is better to have a little “more” than a little “less” than optimal.
There was some initial volatility in the domestic FX market associated with the uncertainty about the mechanism. The market is now used to it, since it is a simple rule which is independent of the level or trend in the exchange rate and thus is compatible with the floating exchange rate regime.

Moreover, the amount of dollars auctioned every day is negligible compared with the daily market turnover.

<table>
<thead>
<tr>
<th>Average daily FX market turnover:</th>
<th>4 billion USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average daily auctioned amount:</td>
<td>23 million USD</td>
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</table>

Data for the following period: May 3rd, 2003 to September 15th, 2006
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As part of a coordinated strategy on the management of sovereign assets and liabilities, Mexico recently substituted foreign exchange denominated Government debt for domestic debt.

CONSOLIDATED PUBLIC SECTOR BALANCE SHEET
(denominated in foreign currencies)

ASSETS

- **Gross International Reserves**
  - Yield: 4.9% per annum

LIABILITIES

- **Government Debt**
  - Approximated Cost: 6.1% per annum
The Government will prepay more than 12.4 billion dollars of foreign exchange denominated debt (IADB and World Bank mostly). To finance this transaction, the Government purchased 12.4 billion dollars from the Central Bank’s reserves with funds obtained from the issuance of domestic debt.
The prepayment of foreign denominated debt will generate savings to the Federal Government that will be reflected in lower financing costs of public debt. Furthermore, the relative importance of external debt within total debt was significantly reduced.
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• The marked increase in reserves is due mainly to high oil revenues. The level of reserves, by common measures of adequacy, seem to be more than enough. However, there is great uncertainty about the optimal level of reserves.

• The main challenge associated with reserve accumulation has been the cost of holding them. Sterilization has been a relatively minor issue.

• The benefits of continuing to accumulate reserves at a rapid pace were considered to be limited and would have required a substantial savings effort of the Mexican economy as a whole.

• Instead of implementing an aggressive asset management strategy in order to reduce the cost of holding large reserves, Mexico opted for policies that:
  a) reduced the growth rate of reserves and,
  b) exploit savings related to the management of sovereign assets and liabilities denominated in foreign currencies.
Final Remarks

• Another challenge faced by central banks is to determine the currency composition of reserve assets.

• Currencies, as an asset class, can generate sizable profits or losses. In an environment of enhanced accountability of central bank actions, the potential disclosure of the currency composition might have significant effects on foreign exchange markets. Recent announcements made by monetary authorities regarding changes to their currency allocation have added certain volatility to exchange rates.

• Historically, currency allocation has been mainly determined using trade flows and currency composition of public external debt. However, this approach has lost some validity and the currency allocation of reserves is now determined more frequently using risk-return considerations.