



## Managing terms of trade volatility

*Terms of trade shocks may slow growth, worsen the distribution of income, and raise the odds of highly disruptive currency crises. How can countries cope with terms of trade shocks? Can commodity price stabilization funds help? And how can the private sector hedge?*

Terms of trade shocks are fiscal shocks. Research on the sources of macroeconomic volatility in Latin America strongly suggests that terms of trade shocks contribute to macroeconomic volatility both directly and because of the strong association between volatility in terms of trade and volatility in fiscal and monetary outcomes. In addition, large terms of trade shocks undermine fixed exchange rate regimes, raising the odds of highly disruptive currency crises.

Macroeconomic volatility due to changes in terms of trade is a drag on economic and social development. It slows growth. (IDB 1995 finds that growth in Latin America in 1994 would have been 1 percentage point higher if the region had possessed the macroeconomic stability of industrial countries.) It worsens the distribution of income. And it discourages investment in physical and human capital.

### Why are terms of trade shocks so disruptive?

A number of things can go wrong when the private sector bears the risk of commodity price shocks. (For more details on commodity price volatility, see PREM-note 13.) The actions of owners of boom income may disrupt the rest of the economy, generating damaging volatility and uncertainty. For example, an investment boom or bust that is generated by a commodity boom or bust can generate wild

fluctuations in relative prices, including the real exchange rate. These wild fluctuations may generate equally wild fluctuations in the return to capital, with adverse implications for domestic investment demand. In the absence of complete insurance markets, the resulting price uncertainty amounts to a policy-relevant externality that may justify policy actions.

There may also be strong interactions between commodity booms and other weak links in the macroeconomic chain. The key concern here is the domestic banking system, which can be undermined by commodity price booms and busts in a number of ways. Commodity booms are typically associated with an increase in demand for domestic deposits, in part because a significant portion of commodity boom income tends to be saved in the domestic banking system and in part because the “good times” are generally associated with greater confidence in the domestic economy. An increase in demand for domestic bank deposits carries the potential for a destabilizing lending boom. Such booms have all too often ended in catastrophic financial crisis.

By the same token, a sudden contraction in deposit demand associated with a large, adverse shock to the terms of trade can also destabilize the banking system. If banks are insufficiently liquid, the contraction in bank deposits may force them to contract their lending sharply and unexpectedly, putting

Commodity booms and busts can generate extensive uncertainty and volatility

Political  
decisionmaking can  
amplify terms of  
trade shocks

strains on borrowers and, ultimately, the entire financial system.

Different concerns arise when the risks of commodity price shocks are borne by the public sector. The collective political decisionmaking process raises the possibility that the shock will be mismanaged and its destructive economic impact greatly magnified. For example, oil-exporting economies are more susceptible to terms of trade volatility than are nonoil-exporting economies. In fact, the impact of terms of trade volatility on real GDP volatility is twice as large in oil economies. One key difference between oil and nonoil commodities is that oil is almost always held within the public sector. Thus the much greater vulnerability of oil economies to terms of trade shocks may be due to the fact that the shock is felt first and foremost by the public sector, which finds it hard to adjust to both booms and busts.

There is more direct evidence that complications in fiscal decisionmaking can greatly magnify the costs of terms of trade shocks. Political arrangements and budgetary institutions affect fiscal outcomes in a big way, indicating that management of fiscal policy is strongly influenced by political dynamics. These political dynamics interact with institutional arrangements and the volatility of the underlying macroeconomic environment.

For example, the Inter-American Development Bank (IDB) has found that macroeconomic volatility and procyclical fiscal policy are closely related. This finding is consistent with the idea that a volatile macroeconomic environment, in which the political system is forced to cope with very large fiscal shocks, greatly complicates the essentially political task of fiscal management and increases the likelihood of a destabilizing fiscal response to shocks.

The IDB has also found that fiscal policy tends to be more destabilizing in countries where proportional representation is the rule, and where the number of parties and constituencies represented in the legislature therefore tend to be higher. This finding gives support to the idea that the political process can amplify terms of trade

shocks by generating a less than fully satisfactory fiscal response.

## How can countries manage terms of trade shocks?

To manage commodity price shocks, countries need banks, governments, and hedging instruments and strategies that can cope with a volatile external environment.

### *Banks that can cope*

Large terms of trade shocks and the associated macroeconomic volatility impose enormous strains on the domestic financial system. The financial system must be robust enough to cope with these strains. This requires:

- Imposing capital and liquidity requirements that reflect the much higher solvency and liquidity risks faced by volatile, commodity-dependent economies.
- Encouraging internationalization of the domestic banking system so that its health will not be so closely tied to terms of trade or other country-specific shocks.

### *Governments that can cope*

What should the public sector do if the fiscal response to shocks is an important part of the problem? As noted, deficiencies in the fiscal response to commodity price shocks are the result of deep-rooted complications in the process of collective decisionmaking. This means that exhortation—simply demanding that governments behave better—is unlikely to be productive. There is more reason to expect results from institutional reforms that change the rules of the game for fiscal decisionmaking.

For example, the IDB has argued that Latin America's procyclical response to macroeconomic shocks is related to the fact that countries run out of credit during bad times, when they would like to be able to run countercyclical, stabilizing deficits. They run out of credit because potential creditors fear that the political system will be unable in future good times to generate the substantial surpluses that would be required to service the debt. A change in the rules of the game that increases the credibility of future surpluses would greatly enhance

government capacity to respond to adverse shocks in a stabilizing manner, while at the same time promoting a more countercyclical tendency in good times.

Several institutional reforms are required:

- Promoting transparency in fiscal decision-making by creating an autonomous “scorekeeper”—analogous, for example, to the Congressional Budget Office in the United States. This scorekeeper could calculate the fiscal deficit adjusted by the economic cycle, which would provide a more adequate measure of a country’s fiscal position. The scorekeeper should also be empowered to monitor compliance with fiscal rules.
- Delegating fiscal decisionmaking adequately, making the executive branch responsible for deciding spending and deficit levels.
- Restricting the executive from proposing and carrying out spending that creates deficits that are inconsistent with intertemporal solvency (for example, by imposing constraints on the maximum allowable underlying fiscal deficit).

#### *Can commodity price stabilization funds help?*

Another, loosely related strategy is to promote self-insurance by creating commodity price stabilization funds or similar schemes that forbid the government from spending more than a specified portion of the income that it earns from a key commodity. The main problem with such schemes is fungibility. Unless a scheme imposes explicit limits on total public spending or the fiscal balance, it is unlikely to affect the government’s behavior in any meaningful way, because it is too easy to finance higher spending by borrowing against the income that has been “saved” in the stabilization fund. Consider Colombia. It has an oil stabilization fund, but the fund has had no noticeable impact on public spending or the overall fiscal balance because it has no way of solving the fungibility problem. In other words, commodity price stabilization schemes are no substitute for institutional reform of fiscal decisionmaking.

#### *How can the private sector hedge?*

It is natural to expect the private sector to want to hedge against commodity price risk. But the private sector can respond appropriately only if the public sector provides a legal and institutional environment that enables appropriate risk management—both hedging and self-insurance.

Hedging contracts may be unavailable because of inadequacies in the legal infrastructure required to ensure that parties to a contract will actually live up to its terms. The private sector’s capacity to self-insure may be undermined if macroeconomic policy does not provide stable money and safe banks for potential self-insurers. This again highlights the importance of ensuring that fiscal policy and the domestic banking system can cope with a volatile macroeconomic environment.

Even with appropriate market infrastructure, a question still arises: does the private sector have appropriate incentives to hedge and self-insure? As noted, the macroeconomic dislocations associated with commodity price volatility impose costs on the rest of society. Because the social benefit of hedging commodity price risks is higher than the private benefit, there may be good reason to implement policies that promote hedging by the private sector.

For the public sector, a hedging strategy has the great advantage that it makes credible the promise not to spend windfall income. After all, you cannot spend income that is not yours. The main problems in carrying out hedging strategies in the public sector relate to governance and political economy. Potential counterparties in a hedging contract may be concerned about sovereign risk. No court can compel a government to pay up as promised when a hedging contract requires a country to forgo the benefits of a commodity price boom.

Even if a government can solve the willingness to pay problem, a principal-agent problem may reduce the willingness of government officials to formulate and carry out a hedging strategy. A hedging strategy that leads to ex post financial losses is at best

There may be good reason to implement policies that promote hedging by the private sector

going to be hard to explain to voters and at worst going to land the responsible official in jail. A hedging strategy that leads to ex post financial gains will at best improve somewhat the odds of remaining in office.

By contrast, failing to formulate and execute a hedging strategy may increase the odds of being thrown out of office if commodity prices decline and the economy deteriorates—though the odds will probably not change much, because the economic problems will largely be blamed on the commodity price shock. Moreover, there is no risk of jail time. Thus there may be an asymmetry in the payoff to government officials who are acting as agents, one that discourages them from hedging as fully as they might in the absence of the principal-agent problem. In short, encouraging more active use of hedging strategies in the public sector may require that political economy and technical obstacles be overcome.

## Further reading

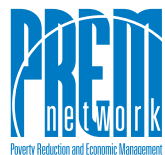
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