

Devaluation risk and the business-cycle implications of exchange-rate management

A comment

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The paper by Mendoza and Uribe is a thoughtful attempt to come to grips with the behavior of consumption and savings after economic liberalization - particularly the tendency for real exchange-rate appreciation and consumption growth to move together during post-liberalization booms and busts. I view its primary contribution as methodological rather than historical. The authors develop a framework that captures the effects of uncertain devaluation on consumption. As a specific explanation for the Mexican crisis (or, more generally, of post-liberalization experiences in recent years) it has shortcomings, as any simple model must. In my comments I will point out where I think the distance between the model and reality is greatest, and which additional factors should be considered in future work.

One attractive feature of the model is the attempt to explain the effects of government policies on real outcomes during liberalizations. The mechanism through which government policy risk affects the real sector, however, is rather limited, and needs to be expanded to include important channels that are absent in the model. In the model, policy matters through potential government inflation taxation of real money balances, which in turn affects the optimal consumption path. In reality, risks associated with uncertain fiscal and monetary policy matter (and mattered in the particular case of Mexico) through other, and perhaps more important, channels.

To a large extent, real balances in the model can be viewed as a "placeholder" for a panoply of possible distortions on savings and investment that are correlated with the probability of exchange rate collapse - empirically,

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inflation taxation of real money serves as a proxy for all of those missing distortions. As long as one takes the model with this appropriately large grain of salt, it is a useful and informative exercise; but there is a danger that the specifics of the model might be taken too seriously - specifically, that one might give real credence to the notion that the distortion of reduced money holdings is the central driving force through which the risk of financial collapse affects the real economy. Let me explain which distortions I think are likely to be more important, using the Mexican case as an example, and suggest how those distortions might be incorporated into the model.

Liberalization is perhaps best seen as a change in fiscal policy, where many of the most important risks associated with liberalization involve implicit contingent liabilities and assets of the government. Privatization of firms and banks has an immediate positive fiscal effect (the reduction of deficits) and if liberalization succeeds, government tax revenues from privatized firms will further reduce deficits. But privatization of firms - especially privatization of banks - also can entail significant immediate fiscal subsidies (effectively, taxpayer subsidized credit to bank owners and their related firms) and substantial contingent fiscal liabilities associated with those subsidies, particularly when government offers implicit or explicit protection against loss to depositors, bank stockholders, and certain bank borrowers through bailouts.

The resource distortions of fiscal subsidies to favored borrowers can be quite large during the boom phase, and the adverse fiscal consequences of financial collapse can be catastrophic for taxpayers. The investment behavior of subsidized domestic "cronies," and the consumption behavior of consumers should reflect both the immediate effects of government subsidies and an understanding of the fiscal risks inherent in liberalization.

How large are these subsidies, when measured by the fiscal cost of paying for them? When the financial collapse came in Mexico, Mexican taxpayers were left holding the bill to the extent of about 20 percent of annual GDP (i.e., the cost to the government of bailing out insolvent banks and their debtors). While the timing and extent of this shock probably was not forecasted by consumers and firms with any great precision, it would be far-fetched to argue that the risk of collapse, and its fiscal costs, were not factored into decision-making during the boom. Certainly, the credit subsidies were not a secret to the many borrowers who enjoyed them, as is clearly visible in the booming supply of consumer and business credit offered by the newly privatized commercial banks and the government-controlled financial sector.

It is also worth remembering that the Mexican crash was not an unprecedented one. It bears an uncanny resemblance to the collapse of the first financial liberalization, in Chile in 1982-1983. Both involved banking-sector insolvency which fueled increased risk-taking by banks, including both in-

creasingly risky loans and foreign-exchange risk as banks sought to assist their owners' firms, and as banks adopted "resurrection strategies" in response to their own insolvency. Indeed, this pattern is common not only to Chile and Mexico but to scores of other failed liberalizations (for a review, see Caprio and Klingebiel 1996a, 1996b, and Beim and Calomiris 2000, Chapters 7 and 8).

Furthermore, the Mexican banking sector was known to be extremely weak prior to the recession that began at the end of 1993. Gil-Diaz and Carstens (1997) fault the bank privatization process for creating much of the risk of financial collapse. Readily apparent flaws included the combination of unlimited deposit insurance, virtually unlimited lending to insiders, and no effective capital requirements (indeed, banks were allowed to lend to finance the capital contributions of their stockholders!). Bank loan growth was especially rapid in the year prior to the election, and a cause of concern by analysts of the banking system in 1993 and 1994; even as the economy slowed and declined, loan growth continued, reflecting both the borrowing needs of bank owners' firms and the political aspirations of the PRI (which desired to maintain a favorable economic climate prior to the 1994 election). As banks got into trouble, they refused to recognize their non-performing loans, and opted for new risks. Garber (1998) documents the use of derivatives by Mexican banks to illegally circumvent limits on foreign exchange risks as banks sought resurrection through speculation against peso depreciation.

As Mendoza and Uribe point out, Mexico had suffered periodic waves of boom and crisis that followed the six-year electoral cycle. Monetary policy sterilization, and exchange rate overvaluation, made the triggering event of a large devaluation quite likely, and in fact, some prominent economists were forecasting devaluation (Dornbusch 1993 and Edwards 1994). In December 1994, the markets were disappointed by the incoming government's lack of a plan for reversing the unsustainable trajectory of fiscal, monetary, and banking policy, which explains the timing of the collapse of the peso. The run on the peso was initiated by domestic capital flight, and worsened as Mexican banks sought to unwind their derivatives positions, which led to a dumping of tesobonos positions by those banks, which aggravated the attack on the peso.

How should the credit subsidies and contingent liabilities have affected the behavior of Mexican firms and consumers over the 1991-1994 cycle? Subsidized access to funds should boost investment by favored firms. Consumers who are offered a pre-election consumer credit subsidy may see little private advantage in postponing consumption in anticipation of lean times ahead, for two reasons. First, the subsidy's window of opportunity may be fleeting, so the incentives to accelerate consumption during credit-subsidized expansion phases of liberalizations can be strong. Second, although consumers may an-

anticipate the higher tax burdens caused by financial collapse, their incentives to save during the expansion phase to pay future taxes may be very weak, especially if consumption today reduces the extent to which their wealth is taxed in the future. In the event, Mexican debtors (including consumers who purchased on credit) were bailed out by generous government policies. (In the case of Argentina in 1989-1990, the seizure of individuals' deposits held in banks was the reward savers received for their thrift prior to the collapse.) Thus participating in consumption booms, even if one knows they are risky, may not be such a bad idea. Once the collapse becomes imminent, consumers and firms will contract expenditures as they become insolvent and illiquid, and the contraction of the banking system will contribute to that decline. It is worth bearing in mind that over the cycle the response of consumption and investment to temporary credit subsidies, post-crisis credit crunches, and post-crisis tax increases will be magnified by the absence of deep capital markets in emerging market countries.

In summary, debtors favored by government subsidies consume and invest at excessive rates during the initial boom phase. As fundamentals point toward ever-greater likelihood of collapse, consumers and businesses retrench or try to flee. When the collapse comes, financial distress, the destruction of local capital markets and banks, and the tax liabilities consumers face, severely depress consumption and investment.

These elements (rent seeking bankers, firms and consumers, distortionary government credit subsidies and bailout policies, the effect of the electoral cycle on the supply and demand for government subsidies, and thin capital markets) are missing in the Mendoza-Uribe paper, and strike me as first-order relevant for consumption and investment decisions - indeed, perhaps much more relevant than the taxation of real money balances modeled by Mendoza and Uribe. Taxes on money balances can be avoided in large part by holding offshore deposits (which was very common among the relatively wealthy in Mexico prior to its crisis) or by holding U.S. dollars (the more realistic option for the poor).

In Mexico, as elsewhere, I think that the implied subsidies and risks of financial liberalization can explain the co-movements of real exchange rates and consumption, and much of the severity in the boom and bust cycles that characterize newly liberalizing economies. The combination of "knife-edge" credit and exchange rate risks taken by banks, and their links to government fiscal and monetary risks, can explain the predictably extreme nature of the new phenomenon of twin currency and banking collapse (for an application of this approach to the Asian financial crisis, see Burnside, Eichenbaum, and Rebelo 1999).

The above account also illustrates the challenges that empirical work on financial crises faces. Measured fiscal deficits and current account deficits

provide little information about true fiscal or balance of payments risks when the contingent liabilities of banks and governments (i.e., derivative positions and expected bailout costs) are large relative to the current flow of government expenditures or the measured capital account. Indeed, some economists mistakenly concluded that the Mexican crisis was an irrational run on the peso because the measured fiscal and current accounts did not indicate problems commensurate with the market's reaction in December 1994. A common problem of macroeconomic models of liberalization risk—particularly those based on representative agents, perfect capital markets, and perfect competition—is their inability to capture empirically the structural flaws which often lie at the heart of macroeconomic risk.

References

Beim, D.O. and Calomiris, C.W., (2000). *Emerging Financial Markets*. New York: Irwin/McGraw-Hill.

Burnside, C., Eichenbaum, M., and Rebelo, S., (1999). Prospective Deficits and the Asian Currency Crisis. National Bureau of Economic Research Working Paper No. 6758.

Caprio, G., Jr. and Klingebiel, D., (1996a). Bank Insolvencies: Cross-County Experience. Working Paper No. 1620, World Bank.

Caprio, G., Jr. and Klingebiel, D., (1996b). Bank Insolvency: Bad Luck, Bad Policy, or Bad Banking? *Annual World Bank Conference on Development Economics 1996*. Washington D.C.: The World Bank.

Dornbusch, R., (1993). Mexico: How to Recover Stability and Growth. *Stabilization Debt and Reform*, ed. by R. Dornbusch. Englewood Cliffs, NJ: Prentice Hall.

Edwards, S., (1994). Trade Liberalization Reforms in Latin America. *Latin America's Economic Future*, ed. by Graham Bird and Ann Helwege. London: Academic Press.

Garber, P., (1998). Derivatives in International Capital Flows. National Bureau of Economic Research Working Paper No. 6623.

Gil-Diaz, F., and Carstens, A., (1997). Pride and Prejudice: The Economics Profession and Mexico's Financial Crisis. *Mexico 1994: Anatomy of an Emerging-Market Crash*, ed. by Sebastian Edwards and Moises Naim. Washington D.C.: Carnegie Endowment.