[Real Effects of Exchange-Rate-Based Stabilization: An Analysis of Competing Theories]
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various theories of exchange-rate-based reforms—and I think they can—they will succeed in setting a new standard for theoretical and empirical work in this area.

REFERENCES


Comment

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1. Introduction

One of the most important, and still unsettled, macroeconomic policy issues facing many governments is the appropriate exchange-rate policy in the course of disinflation. Many governments battling high inflation have attempted to use the exchange rate as a nominal anchor to bring about rapid price stability. Other countries have relied on tight monetary policy and a floating exchange rate. There is still no agreed position on the relative merits of these alternatives.

The skillful paper by Sergio Rebelo and Carlos Végh, together with many important earlier papers by Végh, often coauthored with Guillermo Calvo, can move us closer to an answer to this key question. Rebelo and Végh analyze the economics of exchange-rate-based stabilization (ERBS), particularly to understand the dynamics of output and consumption in the course of stabilization. Their main concern is to understand why many
countries have experienced an output and consumption boom in the immediate aftermath of an ERBS.

There are several crucial questions about the merits of ERBS. First, ERBS has shown itself to be capable of producing a sudden end of high inflation, especially when starting from hyperinflation. What is the source of this sudden disinflation? Is it credibility, as suggested in the seminal paper of Sargent (1982), or is it something else? Second, ERBS has often been able to produce disinflation with a smaller drop in output than a money-based stabilization (MBS). What is the source of the less-costly disinflation? Third, and more mysteriously, many episodes of ERBS have not only avoided a contraction, but have actually been accompanied by a boom, in both output and consumption. Why does ERBS sometimes contribute to boom conditions? Fourth, following the boom, some episodes of ERBS have been followed by a bust in later years. A cliche, which vastly exaggerates the generality of experience, holds that ERBS is “boom first, bust later,” while MBS is “bust first, boom later.” Even though such precise regularity does not exist, what could explain the boom–bust pattern in many cases of ERBS? Fifth, and finally, what have we learned about smoothing the output effects of stabilization, both in the boom and in the bust phases?

Rebelo and Végh’s paper addresses mainly the third item: the sources of boom in ERBS episodes. I would like to comment briefly on all five points, to give some broader perspective to the important issues raised in the paper.

2. Why Does ERBS Achieve Sudden Disinflation?

Certainly the most surprising single aspect of ERBS is that it has proven capable of stopping hyperinflation almost immediately, a point first famously made by Sargent. Sargent attributed this suddenness to the reestablishment of a credible intertemporal macroeconomic policy, mainly fiscal discipline and central bank independence. It is now clear, however, that disinflation can be achieved suddenly even when credibility is not yet firmly established (as indicated, for example, by a continuing huge discount in the forward market for foreign exchange, and accompanying very high nominal interest rates, even after disinflation).

The real answer to immediate disinflation seems to be that countries in high inflation become increasingly “dollarized” in price and wage setting, in that domestic residents use an external unit of account (particularly the dollar in the recent years, but sometimes the deutsche mark) for the unit of account, even though they continue to use the domestic currency for payments. Thus, domestic prices are set as dollar prices
multiplied by the spot exchange rate between the domestic currency and the dollar. Stopping the exchange depreciation is tantamount to ending domestic inflation (and "importing" the dollar inflation rate). We also know that exchange-rate stability can be achieved in the short term (i.e., temporarily) by the defense of the currency by the central bank, even if there are rational expectations that the exchange rate will continue to depreciate at some point in the future.

3. Why Do the Short-Term Output Losses Tend to Be Less Under ERBS than MBS?

The basic point has to do with remonetization of the economy, a point stressed by Mundell in the 1960s. Suppose that money demand is given by the standard relationship \( M/P = m(i) \), where \( i \) is the nominal interest rate. In turn, write \( i \) as \( r + \pi \), where \( \pi \) is expected inflation and \( r \) is the real interest rate. When disinflation comes (even if it is temporary), expected inflation drops. For a given real interest rate, the demand for real-money balances increases. In an ERBS, the money supply increases automatically as domestic wealth holders convert their foreign assets and mattress dollars back into domestic currency. The central bank intervenes to peg the exchange rate, buying dollars and selling domestic money, thereby raising \( M/P \).

In an MBS, by contrast, the central bank does not intervene. The nominal money supply remains unchanged (assuming, as is generally the rule in MBS, no domestic credit expansion in place of exchange-market intervention). The only way for real-money balances to rise, therefore, is for the absolute price level to decline. If domestic prices are sticky downward for some reason (e.g. contracts, public-sector pricing), the result is that \( M/P \) can't increase sufficiently. As result, the fall in \( \pi \) must be matched by a compensating rise in \( r \), the real interest rate, in order to keep the money market in equilibrium. The rise in real interest rates, in turn, reduces real output.

4. Why do Many ERBS Episodes Begin with a Boom?

This is the question skillfully addressed in Rebelo and Végh's paper. Even if the relative efficiency of ERBS relative to MBS is clear, for reasons just given, it is still a mystery why ERBS actually starts with a boom rather than a mild contraction. The authors test several well-known hypotheses, such as inflation inertia (which can produce low or negative real interest rates at the start of disinflation), lack of credibility
(which can cause consumers to tilt their consumption to the temporary period of low inflation), or simply the efficiency gains from low inflation (which lead to a consumption and investment boom). Interestingly, despite their best hopes, the inflation-inertia explanation, combined with supply-side gains of disinflation, proves to be most compatible with the evidence (as processed by the simulation exercises), whereas the alternative explanations seem wanting in one way or another. The temporariness hypothesis does not fare well, which is not surprising, since the boom has followed ERBS programs of varying degrees of credibility, without being linked in an obvious way to the underlying credibility of the disinflation program.

I think that the authors miss an important, and as yet poorly understood, link in the puzzle. As discussed earlier, disinflation produces a rise in real money holdings. In a fractional banking system, the rise in $M/P$ is associated with a sharp rise in bank lending. Most developing countries have repressed financial markets, in which certain classes of customers can borrow only from certain classes of financial institutions. When the banks are illiquid as a result of low levels of domestic money holding, bank borrowers (such as consumers seeking consumer credit or home builders) are unable to get the credits that they desire from other sources. In this way, high inflation squeezes many groups out of the credit market, by causing a low level of intermediation in the banking system. Conversely, stabilization leads to a sharp increase of banking intermediation and a boom in credits to previously rationed agents in the economy. Thus, ERBS has often been accompanied by a boom in bank lending, which in turn has fueled a boom in consumption spending and household investment spending. I think that the authors miss this link by the underlying assumption of perfect capital markets and single interest rate against which intertemporally optimizing agents can borrow subject only to a long-term solvency constraint.

5. Why Is the ERBS Boom Sometimes Followed by a Bust?

The counterpart bust to the initial boom is even more puzzling. Many of the theories of the boom would not really predict a subsequent interval of recession. And yet, several episodes of early boom were then followed by bust. Here, it seems that a combination of nominal rigidities and the banking credit cycle both play a role. The authors find, to their obvious consternation, that the assumption of inflation inertia helps to account for the empirical experiences, since exchange-rate stabilization is followed by an overvaluation of the real exchange rate, which is subsequently resolved by a recession.
Obviously, inflation inertia seems to run counter to pure, full-information, optimizing models. Yet there are some obvious, observable factors causing inflation inertia. In practice, the inertia is in the nontradables sector, for which the dollar-based pricing discussed earlier (in Section 2) does not apply as directly. The rigidities are often in public-sector services, such as utilities fees and transport costs, which the government continues to raise gradually after stabilization in order to recoup previous declines in real public-sector prices. Also, in Chile and other countries, legally mandated wage indexation caused inertia in wage inflation, which translated into inertia in nontradables prices.

Banking credit also probably plays a role in the subsequent bust. If ERBS instigates a boom in banking credit, the banks eventually become fully loaned up (e.g., relative to prudential standards on bank capital adequacy). After rapid lending, the banks stop further extensions of credit, leading to a rapid cutback in consumer lending, causing the initial boom to tilt over into a subsequent recession. Since the banking side of the story has not yet been investigated properly, this causation is still to be verified, but it seems to be consistent with the large number of ERBS episodes that end with a banking crisis, after a rapid overexpansion of bank credit in the immediate aftermath of stabilization.

6. What to Do?

The bottom-line question then is how to enjoy stabilization at low cost to output, while at the same time avoiding the boom–bust cycle. It seems increasingly clear that the right approach is a two-step approach, of early exchange-rate pegging, in order to "import" low dollar inflation and to remonetize the economy, followed by a move to a more flexible exchange-rate system after low inflation has been achieved, in order to avoid the problems of creeping overvaluation. It seems, for example, that Mexico achieved low-cost disinflation at the end of the 1980s, but then succumbed to subsequent bust in 1994–1995, as a result of several years of growing real overvaluation, followed by a foreign borrowing crisis and a related banking crisis (see Sachs, Tornell, and Velasco, 1995).

I should stress that there is probably another reason to favor an early peg of the exchange rate, in addition to remonetization. When economies are highly demonetized, they may become subject to self-fulfilling flights from the currency. In a self-fulfilling currency panic, agents flee the domestic currency out of fear of high inflation. The currency flight, in turn, causes the inflation that was feared. Pegging the exchange rate can be a way to stop a self-fulfilling hyperinflation. (See Sachs, 1995, for a detailed discussion.)
Still, moving from an initially pegged rate to a flexible rate (e.g., a crawling band) is easier said than done. We still don’t have an agreed approach to announcing, at the start of stabilization, that a peg will be temporary, to be followed by some sort of band or float. The experiences of Israel and Poland, which both had ERBS followed by more flexible arrangements, could provide valuable lessons.

At the same time, there are several other important questions. Should the monetary authorities use short-term capital controls to limit the rate of remonetization of the economy, perhaps thereby avoiding a boom–bust cycle? It seems that Chile may have been somewhat effective in this regard. Should the banking system be more tightly regulated to avoid the boom–bust cycle? This seems especially relevant in that banking deregulation, by itself, has often contributed to a boom–bust cycle of bank lending (cf. the U.S. savings-and-loan crisis, the Scandinavian banking crises following banking liberalization, and the Japanese bubble of the late 1980s, followed by bust in the 1990s). It seems that there is also a case for developing countries to resist the introduction of dollarized accounts (either indexed accounts or foreign-currency accounts) in the domestic banking system: such accounts invite panicky deposit movements between the domestic currency and the foreign currency, since the central bank cannot effectively be the lender of last resort against foreign-currency accounts. Finally, there is a need to investigate more deeply the option to combine ERBS with a currency-board approach to domestic monetary management. On the plus side, the currency board helps to limit abuses of excess domestic credit expansion; on the minus side, the currency board rules out the lender-of-last-resort function of the central bank, and thereby may permit the onset of banking panics in fragile circumstances.

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Discussion

In response to Sachs, Carlos Végh pointed out that it was very important to draw a distinction between hyperinflationary and chronic-inflation