Currency crises and government finances

Government finances are a key cause of currency crises—but also suffer their effects. Understanding these relationships is crucial to understanding fiscal sustainability.

Recent currency crises have caused severe depreciations of national currencies, even in countries that had budget surpluses or very small deficits before the crises occurred. These depreciations have led some analysts to downplay the role of fiscal policy in causing currency crises. But for several reasons, policymakers should not underestimate the importance of fiscal policy:

• The realization of large contingent liabilities can quickly and dramatically alter government finances—leading to a currency crisis.
• The effects of a currency crisis on government finances depend on the structure of government revenue, spending, and debt.
• The fiscal policies adopted in response to a crisis influence economic outcomes—especially inflation and depreciation.

Traditional crisis models and fiscal sustainability

Traditional models of currency crises explain them as a consequence of unsustainable fiscal policy. In these models a government that fixes or heavily manages its exchange rate will accumulate debt (or run down reserves) if its primary surplus is not large enough. Eventually the government will no longer be able or willing to maintain the exchange rate peg. A currency crisis then develops, with the central bank floating the currency and monetary policy eventually becoming more accommodating—with seigniorage, rather than debt, used to finance the government’s deficit.

Traditional discussions of fiscal sustainability are consistent with the basic principles of these models. A government running a large deficit under a fixed exchange rate can either take corrective action to improve its fiscal balance and contain inflation, or it can avoid taking corrective action—an approach that ultimately forces the government to abandon the fixed exchange rate and allow higher inflation. Studies of fiscal sustainability measure the primary surplus needed to contain inflation as well as the cost of not taking such action, as indicated by the increase in debt if fiscal policy remains unchanged.

At first glance, several recent currency crises do not appear to fit the basic model. For example, most of the East Asian countries that experienced severe depreciations in 1997–98 were not running large measured deficits before their crises. In fact, all but one (the Philippines) were running surpluses (table 1).

The reason these crises may appear to have little to do with fiscal policy follows from the basic logic of the traditional models. A government is assumed to have a budget constraint that, in simplified form, is:

\[ \text{change in debt} = \text{interest payments} - \text{primary surplus} - \text{seigniorage}. \]

A government’s finances are usually considered sustainable if it can stabilize its debt...
Traditional models of currency crises are applicable to the East Asian crisis countries relative to GDP without resorting to inflationary fiscal and monetary policies. When the GDP growth rate \( g \), inflation rate \( \pi \), real interest rate \( r \), and debt-GDP ratio \( b \) are all constant, equation 1 implies that the primary surplus relative to GDP \( s \) is constant and equal to:

\[
s = (r - g) b - (\pi + g) m,
\]

where \( m \) is the ratio of the monetary base to GDP. Equation 2 shows that for debt to stabilize at some level of \( b \), the government has to set the primary surplus to a sufficiently high level. The greater is the initial debt, the larger is the required surplus. Equation 2 also shows how, with a fixed exchange rate, the government can typically raise only small amounts through seigniorage—the \((\pi + g) m\) term—and so must be more disciplined in terms of its primary surplus.

This type of analysis would not have indicated that East Asian countries had problems with debt sustainability. Initial debt levels were generally low, real growth was rapid, and primary surpluses—at least as measured—were adequate. Thus the most visible signs suggested that fiscal policy was sound.

**Why does fiscal policy still matter?**

That fiscal policy still matters is clear from the fact that East Asian crisis countries—and others before them, such as Mexico in 1994–95—suffered significant fiscal shocks at the same time as their crises. These shocks stemmed from the realization of contingent liabilities associated with failing banking systems. (See PREMnote 9, which discusses the importance of examining contingent liabilities when studying fiscal sustainability.)

Focusing on bank bailouts, Burnside, Eichenbaum, and Rebelo (2001b) argue that traditional models of currency crises are applicable to the East Asian crisis countries. The authors suggest that the deficits after the crises could have been anticipated given the region’s deteriorating banking systems. Regardless, there is little doubt that government finances had important economic consequences once the currency crises were set in motion. The restructuring and recapitalization of failed banks had massive fiscal costs—in effect, contingent liabilities were converted into actual liabilities during the crises. Avoiding the crises would have required financing these costs through large explicit fiscal reforms.

**Crisis responses and consequences**

To better understand the role of fiscal policy in recent crises in emerging markets, it is important to see how governments in these countries paid for bank and corporate bailouts. Different financing methods have different implications for inflation and depreciation after crises.

The standard fiscal sustainability analysis reflected in equation 2 revolves around a restatement of the government’s long-term budget constraint, derived from equation 1:

\[
\text{initial debt} = \text{present value of future primary surpluses and seigniorage}.
\]

Table 1 *Fiscal balances in selected East Asian countries, 1995–97* (percentage of GDP)

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>0.0</td>
<td>0.8</td>
<td>1.2</td>
</tr>
<tr>
<td>Korea, Rep. of</td>
<td>1.0</td>
<td>1.3</td>
<td>1.0</td>
</tr>
<tr>
<td>Malaysia</td>
<td>3.5</td>
<td>2.2</td>
<td>2.1</td>
</tr>
<tr>
<td>Philippines</td>
<td>-1.8</td>
<td>-1.4</td>
<td>-0.4</td>
</tr>
<tr>
<td>Thailand</td>
<td>1.9</td>
<td>3.0</td>
<td>2.5</td>
</tr>
</tbody>
</table>

*Source: Burnside, Eichenbaum, and Rebelo 2001b.*
suited to thinking about crises. To be useful in understanding the possible effects of a banking crisis, the analysis needs to reflect how governments tend to respond to crises.

For example, standard theory implies that a government in a long-run steady state, with a sustainable fixed exchange rate, could weather a banking crisis without abandoning the exchange rate. It could do so if it could credibly announce its intention and ability to finance any fiscal costs resulting from the crisis through explicit fiscal reforms—that is, by cutting primary spending or raising taxes. But governments usually do not take such actions, presumably because they are too costly economically or politically.

Thus crisis costs are often financed through other means. Fiscal reforms in the Republic of Korea (starting in 1997) and Mexico (1994) were modest relative to the fiscal costs of banking crises (table 2). Other sources of financing included seigniorage and the depreciation of debt denominated in local currency. Debt sustainability analysis needs to reflect the extent to which governments can and are likely to resort to these sources of financing. It also needs to reflect the fact that crises are often associated with economic downturns that impose additional fiscal costs through lost revenue. This factor was especially important in Korea.

Debt sustainability analysis also needs to show how financing affects economic outcomes. Theory suggests that depreciation and inflation after a crisis depend on three factors related to financing. One is the fiscal cost of the crisis net of the value of explicit fiscal reforms. The second is the amount of additional seigniorage revenue the government raises. The third factor is how much revenue the government can raise implicitly—which depends on the degree of exchange rate pass-through to local prices, the amount of the government’s nominal debt, and the structure of the government’s spending and revenue base.

Burnside, Eichenbaum, and Rebelo (2001a) use the simple monetary models from fiscal sustainability analysis—built around the government budget constraint and a money demand function—to investigate how financing affects economic outcomes. They use examples in which the exchange rate is initially assumed to be sustainable. By definition this means that the government’s fiscal plans are consistent with equation 3, where the amount of seigniorage being raised is consistent with maintaining the fixed exchange rate.

The authors then imagine that the economy is hit by a banking crisis. This increases the left-hand side of equation 3 by the size of the resulting bank bailout. As noted, the government can finance this bailout through a combination of additional seigniorage, explicit fiscal reforms, and implicit fiscal reforms. Implicit reforms occur without direct government action but only if the fixed exchange rate is abandoned. Examples include inflating away the value of local currency debt or other nominal spending commitments, or decreasing the dollar value of public sector wages that might be indexed to the consumer price index and not the exchange rate.

Economic outcomes depend on the mix of financing. Suppose that the government finances the entire fiscal cost of the bank bailout with explicit fiscal reforms. Then a currency crisis can be averted because the government does not need additional seigniorage or implicit revenue—both of which would require it to abandon the fixed exchange rate—to finance its new liabilities.

At the opposite extreme, suppose that the government makes no explicit fiscal

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**Table 2. Financing for Recent Banking Crises in the Republic of Korea and Mexico**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Korea, Rep. of</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiscal cost of the crisis</td>
<td>24.0</td>
<td>15.0</td>
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<tr>
<td>New funds raised</td>
<td>6.0</td>
<td>4.3</td>
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<tr>
<td>Seigniorage</td>
<td>1.1</td>
<td>1.5</td>
</tr>
<tr>
<td>Debt depreciation</td>
<td>2.9</td>
<td>2.0</td>
</tr>
<tr>
<td>Fiscal reforms</td>
<td>7.2</td>
<td>1.4</td>
</tr>
<tr>
<td>Costs of recession</td>
<td>–5.2</td>
<td>–0.5</td>
</tr>
<tr>
<td>Yet to be paid for</td>
<td>18.0</td>
<td>10.7</td>
</tr>
</tbody>
</table>

*Note: New funds raised represent the present value of estimated net changes in financing from the crisis year (1997 for Korea, 1994 for Mexico) through the end of 2000. Source: Burnside, Eichenbaum, and Rebelo 2001a.*
reform and raises no implicit revenue (that is, the government has no non-indexed local currency debt, fiscal policy is implicitly indexed to foreign currency, and exchange rate pass-through is immediate). Thus it finances the entire bailout with seigniorage. This move would imply a depreciation of the currency matched by an equal increase in inflation.

In Korea neither scenario occurred. There was a currency crisis—implying incomplete explicit fiscal reform—yet inflation was very low—implying that some implicit revenue was raised to finance the cost of bailing out banks, estimated by Standard and Poor’s to have been about 24 percent of GDP. Burnside, Eichenbaum, and Rebelo (2001a) construct an example in which a country facing such a cost pays for about two-thirds of it with explicit fiscal reforms and for one-third in roughly equal parts by generating additional seigniorage revenue, inflating away part of its nominal debt, and relying on other implicit fiscal reforms. Together these assumptions on financing, along with modest domestic price stickiness, imply a 60 percent depreciation of the exchange rate in the first year of the crisis, but only 15 percent inflation. Furthermore, they imply little depreciation or inflation thereafter. These outcomes are similar to those in Korea except for the exchange rate overshooting that occurred there.

The jury is still out on whether Korea will use seigniorage or explicit fiscal reforms to finance the remaining fiscal cost of its banking crisis. Economists performing fiscal sustainability analyses at the time of the crisis would not have been able to fully anticipate the government’s future actions. But they would have been aided, in making their projections, by detailed information on the structure of government debt, spending, and revenue, and by studies of exchange rate pass-through in Korea. This sort of information, in conjunction with the standard tools of fiscal sustainability analysis, would have allowed them to assess the effects of alternative government policies.

Further reading

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