Sovereign Risk and Debt Crises

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Readings


Outline

- Some Definitions
- Avoiding debt build-ups: Three basic points.
- Undoing debt overhangs: The menu of options.
Domestic and external debt

- Domestic public debt is issued under home legal jurisdiction. In most countries, over most of their history, it has been denominated in the local currency and held mainly by residents. By the same token, the overwhelming majority of external public debt—debt under the legal jurisdiction of foreign governments—has been denominated in foreign currency and held by foreign residents.

Banking crises in at least three countries (shaded)

Average for India, Indonesia, Korea, Malaysia, Philippines, and Thailand

Hidden debts
Diaz Alejandro 1985 and Velasco 1986

- All governments have a myriad of explicit and implicit “off-the-books” debt guarantees (which slam onto the books in a crisis (as illustrated repeatedly Reinhart (2010) chartbook. See also Shin (2013)).

- Begs question of how these hidden debts affect prices for traded government securities...

- For other types of hidden debts—information asymmetries may be important.
Serial default
Reinhart, Rogoff, and Savastano

Serial default refers to countries which experience multiple sovereign defaults (on external or domestic public or publicly-guaranteed debt—or both). These defaults may occur five or fifty years apart; these may be wholesale default (or repudiation) or a partial default through rescheduling.
Debt intolerance

Reinhart, Rogoff, and Savastano

- Syndrome where weak institutional structures and a problematic political system make external borrowing a useful device for developing country governments to avoid hard decisions about spending and taxing.

- “Debt intolerance,” manifests itself in the extreme duress many emerging markets experience at debt levels that would seem quite manageable by advanced country standards. “Safe” debt thresholds for highly debt intolerant emerging markets turn out to be surprisingly low, and these thresholds depend heavily on a country’s record of default and inflation. (RRS, 2003). Mendoza (2003) has stressed low and variable tax revenue streams as a major driver.
<table>
<thead>
<tr>
<th>Crisis type</th>
<th>Threshold or criteria</th>
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<tbody>
<tr>
<td><strong>Type I:</strong> Systemic/severe</td>
<td>We mark a banking crisis by two types of events: (1) bank runs that lead to the closure, merging, or takeover by the public sector of one or more financial institutions; and (2) if there are no runs, the closure, merging, takeover, or large-scale government assistance of an important financial institution (or group of institutions), that marks the start of a string of similar outcomes for other financial institutions.</td>
</tr>
<tr>
<td><strong>Type II:</strong> Borderline/financial distress/ milder</td>
<td></td>
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<tr>
<td><strong>Currency crashes</strong></td>
<td>An annual depreciation versus the US dollar (or the relevant anchor currency—historically also, the UK pound, the French franc, or the German DM and presently the euro) of 15 percent or more</td>
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<tr>
<td><strong>Currency conversions are added as a second variety of a currency crash</strong></td>
<td>A currency reform where a new currency replaces a much-depreciated earlier currency in circulation.</td>
</tr>
<tr>
<td><strong>Debt crises: External</strong></td>
<td>A sovereign default is defined as the failure to meet a principal or interest payment on the due date (or within the specified grace period). The episodes also include instances where rescheduled debt is ultimately extinguished in terms less favorable than the original obligation.</td>
</tr>
<tr>
<td><strong>Debt crises: Domestic</strong></td>
<td>The definition given above for external debt applies. In addition, domestic debt crises have involved the freezing of bank deposits and or forcible conversions of such deposits from dollars to local currency.</td>
</tr>
<tr>
<td><strong>Inflation</strong></td>
<td>An annual inflation rate 20 percent or higher by either the year-over-year change or December-to-December (if monthly data is available)</td>
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Avoiding debt build-ups

*Three observations*

- *(i)* Pro-cyclical fiscal policies during booms are not just an EM phenomenon.
- *(ii)* Prudent fiscal policies are not enough to avoid debt buildups; private debts before the crisis often become public debts afterwards.
- *(iii)* For EMs, tolerable external debt levels appear to remain quite low.

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(i) **Pro-cyclical fiscal policies during booms are not just an EM phenomenon**

<table>
<thead>
<tr>
<th>Greece, 1987-2007</th>
<th>Average per capita GDP growth</th>
<th>General government debt/GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10 years ending</td>
<td>end of period</td>
</tr>
<tr>
<td>1997</td>
<td>1.5</td>
<td>96.6</td>
</tr>
<tr>
<td>2007</td>
<td>3.9</td>
<td>107.2</td>
</tr>
</tbody>
</table>
(ii) The old problem of contingent liabilities; public debt was low...
but private debts had soared.

<table>
<thead>
<tr>
<th></th>
<th>Total external debt (public + private)</th>
<th>Domestic credit to the private sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iceland</td>
<td>567.9</td>
<td>358.2</td>
</tr>
<tr>
<td>Ireland</td>
<td>871.8</td>
<td>215.4</td>
</tr>
</tbody>
</table>

As a percent of GDP

2007

Iceland

Ireland

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(iii) Defaults and restructurings at low levels of external debt are commonplace in EMs

Frequency distribution of external debt ratios in middle-income countries at the time of default 1970-2001 (Reinhart, Rogoff, and Savastano, 2003)

This fact holds when updated to include episodes through 2014...

<table>
<thead>
<tr>
<th>External debt-to-GNP range in first year of default or restructuring</th>
<th>Percent of total defaults or restructurings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 40 percent</td>
<td>13</td>
</tr>
<tr>
<td>41 to 60 percent</td>
<td>40</td>
</tr>
<tr>
<td>61 to 80 percent</td>
<td>13</td>
</tr>
<tr>
<td>81 to 100 percent</td>
<td>20</td>
</tr>
<tr>
<td>Above 100 percent</td>
<td>13</td>
</tr>
</tbody>
</table>
Taken together, these three observations raise issues that extend beyond fiscal rules and include:

- Better measures of “cyclically adjusted” budgets and fiscal accounts
- Regulatory and other policies designed to curb domestic private debt buildups
- “Capital controls” aimed to accomplish the same for private external borrowing
- Measures to reduce revenue volatility (Mendoza and Oviedo, 2004)
Undoing debt overhangs

Throughout history, debt/GDP ratios have been reduced by:

(i) economic growth;
(ii) fiscal adjustment/austerity;
(iii) explicit default or restructuring;
(iv) a sudden surprise burst in inflation; and
(v) a steady dosage of financial repression that is accompanied by an equally steady dosage of inflation.

Options (iv) and (v) are only viable for domestic-currency debts.

Reinhart
Public debt as a percent of GDP: Advanced Economies: 1900-2016

WWI and Depression debts
advanced and emerging economies: default, restructuring and conversions--a few hyperinflations

WWII debts:
Axis countries: default and financial repression/inflation
Allies: financial repression/inflation
Public debt reduction has not always been orthodox -- even in advanced economies

Reinhart, Reinhart and Rogoff (2015)

Factors Behind Debt Reversals:
Fiscal Adjustment, Restructuring, Inflation, Growth, and Real Interest Rates

<table>
<thead>
<tr>
<th>Growth &gt; median</th>
<th>Primary balance &gt; median</th>
<th>Real rates &lt; median</th>
<th>Inflation &gt; median</th>
<th>Default or restructure &gt; median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of episodes</td>
<td>38</td>
<td>41</td>
<td>41</td>
<td>41</td>
</tr>
<tr>
<td>Share</td>
<td>0.54</td>
<td>0.61</td>
<td>0.59</td>
<td>0.59</td>
</tr>
</tbody>
</table>

Post-war cases, 36 episodes
Number of episodes | 21 | 16 | 30 | 30 | 9 |
Share | 0.58 | 0.48 | 0.86 | 0.83 | 0.25 |

Peacetime, 34 episodes
Number of episodes | 17 | 25 | 11 | 11 | 7 |
Share | 0.50 | 0.74 | 0.32 | 0.32 | 0.21 |

Memorandum items:
Share of debt reduction episodes associated with deflation
Total | 0.07 |
War | 0.11 |
Peace | 0.03 |
Official debt is the Greek story now

Arslanalp and Tsuda, (2014)

Greece
Stylized crisis timeline of the 1920s/1930s and 1980s/1990s

*Reinhart and Trebesch (2016)*

**1920s/1930s**
- First defaults early-1920s
- Debt Reschedulings of the mid-1920s
  - cash flow relief
- 1931 Hoover Moratorium
  - cash flow relief
- 1934 Default and Write Off
  - debt stock reduction

**1980s/1990s**
- Defaults, Rollovers and Reschedulings after 1982
  - cash flow relief
- Baker Plan (1986)
  - cash flow relief
- Brady Plan (1990)
  - debt stock reduction
Real Per Capita GDP Around Debt Relief Events (Exit from Default) in Middle-High Income Emerging Markets (1978-2010) and Advanced Economies (1934)

10-year window around debt relief event, level of real per capita GDP at $T=1$

Index $T=1$

GDP for 15 advanced economy interwar episodes ($T=1934$)

GDP for 30 middle-to-high income emerging market episodes, 1978-2010
($T=$year of final restructuring)

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Real interest rates, financial regulation, and the post crisis re-emergence of financial repression
For the advanced economies, real interest rates were negative roughly $\frac{1}{2}$ of the time during 1945-1980.

“Financial repression” was most successful in liquidating debts when accompanied by a steady dose of inflation.

Average annual interest expense savings as a percent of GDP (FR tax) ranged from about 1 to 5 percent of GDP for the full 1945-1980 sample.