Chapter 21

Macroeconomic Crises

Tools: Crisis triggers and indicators.

Key Words: Sovereign default; bank runs and panics; refinancing (rollover) risk; leverage; conditionality; solvency and liquidity.

Big Ideas:

- Common triggers of macroeconomic crises are sovereign debt problems, financial fragility, and fixed exchange rates.

- Measures related to these triggers can help identify countries in trouble: debt and deficits, financial weakness, exchange rate regime, and so on.

- The goals of crisis prevention and crisis management are often at odds.

Economies periodically experience *crises*: economic downturns that are not only larger than typical recessions but qualitatively different. The idea is now fresh in our minds, but similar episodes have occurred throughout recorded history. They're less common in modern, developed countries, but they can happen anywhere. Like snowflakes and business cycles, no two are exactly the same, but they share some common features.

21.1   Classic crisis triggers

There are three classic triggers of macroeconomic crises: sovereign debt, financial fragility, and a fixed exchange rate.

Sovereign debt problems. If investors fear that a government may not repay its debt, the market for debt collapses, often taking the economy with it. In the old days, wars were the standard problem. Wars are expensive, and if investors thought the expense was more than the government was willing or able to bear, they would stop buying the debt. In modern times, governments spend money on many things besides wars, but the possibility of default remains. Argentina in 2002 and Greece today are recent examples. These experiences remind us that sovereign debt need not be risk-free.

The central issue with government debts is sovereignty. If a corporation defaults, the creditors take it to court and claim the assets. With governments, there's no such mechanism, and the process is sloppier as a result.

Financial fragility. We know from centuries of experience that when the financial system freezes up, economic activity slows down sharply. We saw that in 2008, but the same thing happened during the Bank of England Panic of 1825, the Baring Crisis of 1890, the US Panic of 1907, Japan and Scandinavia in the 1990s, and many other occasions. It's a feature of even advanced financial systems that they sometimes break.

In most cases, these financial problems follow from poor investments (real estate is a common example), which put the solvency of financial institutions in question. The problems tend to snowball: Worries about the viability of one firm may lead others to reduce their lending, leading to a cycle of retrenchment that puts even sound firms in trouble. The word "panic" is apt here and stems from the imperfect information that investors have when deciding where to put their money.

Fixed exchange rates. For whatever reason, fixed exchange rates periodically must be defended in ways that undermine the economy. Recent examples include the UK in 1992, Mexico in 1994, Korea in 1997, and Argentina in 2000.

Many crises combine several of these elements. The countries of the euro area face all three. In Ireland and Spain, bailing out their banks landed the governments in financial peril. In other countries, bank positions in government debt or in overpriced real estate put the banking systems in peril. Finally, the common currency eliminates exchange rate changes as a possible correction mechanism.

21.2   Crisis indicators

Crises are inherently hard to predict. Why? Think about cardiologists. We understand that they can identify risk factors (weight, high blood pressure)

but cannot predict the date of a heart attack with any precision. Crises are worse. Once people see a crisis on the way, their actions tend to reinforce it: they sell government debt, withdraw funds from banks, or shift their money to foreign currency. But like a cardiologist, we can use what we know to identify signs of trouble.

Analysts differ in the details, but most would include the following in their "checklist" of crisis indicators:

Government debt and deficits. The primary issue here is the quality of governance. That aside, common rules of thumb include: Worry if government deficit is more than 5 percent of GDP or debt is more than 50 percent of GDP. Adjust upward for developed countries, downward for developing countries and for regional governments. And watch out for hidden liabilities: pensions, health care, bailouts, etc. These are often much larger than official liabilities.

Fine points: Worry further if debt is short-term and/or denominated in foreign currency. Short-term debt subjects the government to refinancing ("rollover") risk; markets may demand better terms or refuse to refinance. Foreign-denominated debt subjects government to risk if currency falls in value, making the debt larger in local terms.

Banking/financial system. This isn't something we've discussed, but analysts track leverage, duration mismatch, exposure concentration, risk-management processes, and nonperforming loans. The challenge is measuring them accurately from reported information. Some of the most troubling situations come with low-quality data.

Exchange rate and reserves. Rule of thumb: Worry if the exchange rate is fixed, or close to it, and the currency is significantly overvalued in PPP terms (Big Macs cost 30 percent more than in other currencies; the real exchange rate has risen more than 30 percent in the past 2-5 years). Worry more if foreign-exchange reserves are low or have fallen significantly.

Political situation. Crises are often more political than economic. Countries with effective governments suffer fewer crises and deal with those that occur more effectively. Analysts therefore look for signs that the political system is unable or unwilling to deal with problems that might turn into crises. Zimbabwe's hyperinflation and Argentina's debt crisis are good examples. Or the Weimar Republic in 1920s Germany.

All of these things generate more concern in countries with weak institutions. It's not an accident that Greece is in worse trouble than France or Germany.

21.3 Crisis responses

What should a government do when faced with a crisis? It depends on the trigger. Standard advice includes:

Sovereign debt crises. If the problem is that the government is borrowing too much, the answer is to stop doing it — run primary surpluses until the debt is manageable. Default is also an option, and saves money in the short term, but probably raises borrowing costs in the future. And if you go through a default, it's helpful to resolve it as quickly as possible. IMF support is often used to cushion the blow: Contingent on progress with the deficit, the IMF lends the government money on more attractive terms than the market would provide. This "conditionality," as it's called, helps reduce moral hazard (you get the money only if you behave) and provides cover for local politicians (the IMF made us do this). Such conditional lending can be critical in a crisis, when high borrowing rates exacerbate the government's debt problems. (See: debt dynamics.)

Financial crises. If the financial system is fundamentally sound (solvent) but illiquid, the longstanding advice is for the central bank to lend aggressively. The standard quote comes from Walter Bagehot, a 19th-century businessman and journalist: "To avert panic, central banks should lend early and freely, to solvent firms, against good collateral, and at high rates."

If the financial system is insolvent, it's important to get it recapitalized and operating again. This advice comes with more than a little irony, as governments sometimes find themselves bailing out precisely those banks that triggered the crisis. The trick is to do it in ways that inflict some pain on the bank's management and creditors (incentives for the future) and don't bankrupt the government. These things happen fast, so it's hard to get everything right.

Fixed exchange rates. Let them float. A more controversial approach is to impose capital controls to inhibit the response of capital markets to a possible drop in the exchange rate. (See: trilemma.) capital controls are a dangerous tool, because the fear of future capital controls can generate a crisis on its own, as investors rush to get their money out of the country. capital controls on inflows may, for that reason, be more attractive than controls on outflows.

Executive summary

1. The classic crisis triggers are (i) government debt and deficits, (ii) a fragile financial system, and (iii) a fixed exchange-rate system.

2. Crises are hard to predict, but we nevertheless have useful indicators connected to each of the triggers.

3. Politics and institutions are central.

Review questions

1. Risk and opportunity in Ghana (May 2012). You have been asked to prepare a risk assessment for the West African country of Ghana. Ghana is a former British colony that has been growing rapidly in recent years after a period of unusually stable politics. The Economist Intelligence Unit refers to it as a "robust democracy." The World Economic Forum ranked Ghana 114th (of 133) in their Global Competitiveness Report. They continue: "The country continues to display strong public institutions and governance indicators, particularly in regional comparison."

The EIU's Country Risk Report adds:
- The December 2012 elections are expected to be close. The president, John Atta Mills, came to power promising accountability and transparency, but has struggled to maintain party unity while evidence emerges of financial impropriety of some government ministers.

- The victor faces a challenging policy environment, particularly the fiscal situation.

- Expectations among the population are high as production starts at the offshore Jubilee oil field.

- The government's decision to allow use of 70% of future oil revenue as collateral for borrowing is a cause for concern if the revenue is not managed properly.

- The Bank of Ghana (the central bank) faces the twin goals of containing inflation and fostering growth.

- The currency — the cedi — floats with occasional heavy intervention.
Your mission is to assess the risks to Ghana using the information in the table, as well as your own good judgement and analytical skills.

   (a) You decide to start with a fiscal assessment. What trend do you see in government revenues and expenses?

   (b) You notice that neither the primary deficit nor interest expenses are reported separately. How would you estimate them from the numbers in the table? What are their values for 2011?

   (c) Using what you know about government debt dynamics, compute the ratio of government debt to GDP for 2011. What factors contribute the most to the change from 2010?

(d) Overall, how would you assess the risks to Ghana's economy over the next couple of years?

	2008	2009	2010	2011	2012
GDP growth (%)	8.4	4.0	7.7	13.6	7.4
Inflation (%)	18.1	16.0	8.6	8.6	8.5
Interest rate (%)	20.8	28.8	22.7	20.5	20.6
Govt revenue (% of GDP)	16.0	16.5	19.1	23.4	22.2
Govt spending (% of GDP)	24.5	22.3	25.5	27.6	27.7
Govt budget balance (% of GDP)	−8.5	−5.8	−6.5	−4.2	−5.5
Govt debt (% of GDP)	30.6	33.3	33.9		
Real exchange rate (index)	81.7	76.3	81.8	78.1	74.5
FX reserves (USD billions)	1.8	2.9	4.3	4.4	4.8

Data from EIU CountryData. The government budget balance is a surplus if positive, deficit if negative. The real exchange rate is the price of goods in Ghana relative to the rest of the world; the larger the number, the more expensive goods are in Ghana. The numbers for 2011 and 2012 are estimates.

Answer.

(a) Trends include: (i) revenues and spending both rising, (ii) spending still ahead of revenue (there's a deficit), and (as a direct result) (iii) ratio of debt to GDP rising a little (more on that to come).

(b) This is a tricky one. Remember that interest payments in year t are $i_t B_{t-1}/Y_t$. We get what we want from:

$$
\begin{aligned}
i_t B_{t-1}/Y_t &= i_t (B_{t-1}/Y_{t-1})(Y_{t-1}/Y_t) \\
&\approx i_t (B_{t-1}/Y_{t-1})/(1 + g_t + \pi_t).
\end{aligned}
$$

That gives us interest payments in 2011 of 5.7% of GDP and a primary deficit of −1.5% (that is, a surplus).

(c) The key relation is this one:

$$
\Delta(B_t/Y_t) = (i_t - \pi_t)(B_{t-1}/Y_{t-1}) - g_t(B_{t-1}/Y_{t-1}) + (D_t/Y_t).
$$

We refer to the components on the right as A, B, and C. Doing the calculations gives us

	2010	2011
Interest payments		4.0
Component A (interest)		4.0
Component B (growth)		−4.6
Component C (primary deficit)		−1.5
Total change in B/Y		−2.1
Public debt (% of GDP)	33.9	31.8

Over this period, the ratio of debt to GDP fell by 2.1%. The components contributed: interest +4.0, growth –4.6, and the primary deficit –1.5. Note especially the growth term, the result of unusually high GDP growth in 2011.

(d) This is a call to look at the checklist of crisis indicators:

- Government debt and deficits. We have deficits, but there's not much sign yet of a growth debt to GDP ratio. One future concern might be the possibility of borrowing now against future oil revenue. Will any debts incurred be spent wisely? Will the oil revenue show up?

- Banking system. No information provided.

- Exchange rate and reserves. Reserves are modest, but with the exchange rate floating there shouldn't be much concern about that.

- Politics. Always an issue, especially with a contentious election coming and the promise of money from oil revenue. It's an odd fact but a true one that revenue from natural resources is more likely to cause problems than solve them.

If you're looking for more

You can find similar analyses in many places. One of our favorites is the Economist Intelligence Unit's Country Risk Reports. Another is the IMF's Vulnerability Indicators.

There's no end of good descriptions of crises. On the most recent crisis, Ben Bernanke's testimony to the crisis commission is a good overview from the perspective of the US (search: "Bernanke testimony crisis causes"). Michael Lewis's Vanity Fair pieces are works of art (search "michael lewis vanity fair"). Among the many books, we recommend

- Robert Bruner and Sean Carr, *The Panic of 1907*. Good read, and short; you'll think it's about 2007.

- Carmen Reinhart and Kenneth Rogoff, *This Time is Different*. The recent bestseller, covering 800 years and the whole world.

- David Wessel, *In Fed We Trust*. Terrific book from the *Wall Street Journal* writer.

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