THE EURO CRISIS. POLITICAL AND ECONOMIC PERSPECTIVES

Sessions 6-7: The Nature of the Crisis

Anne-Laure Delatte
October 9, 2019
Outline

Tensions on financial markets

Two tales of crisis

The sovereign crisis I

The sovereign crisis II: The feedback loop

Breaking the loop

A Balance of Payment Crisis without devaluation
Section 1

Tensions on financial markets
The perception of risk deteriorates

- Chart displays the spread of government bonds against German bonds of the same maturity
- Asset spread is the premium that investors request to hold a risk, i.e. it is a risk premium, or the price of risk
- As such, starting point of financial tensions can be traced at the onset of the USA sub-prime crisis in the summer of 2007
- Starting from a value of 25 basis points (b.p.), the spread of the 10-year Greek government bond yield against the German bund entered a moderately ascending path reaching 65 b.p. in August 2008.
Market focused on Greece and Ireland

- Similar developments observed in the rest of the EMU periphery countries but markets were distinguishing against Greek and Irish bonds.
- De-escalation, between April and August 2009, coinciding with the partial easing of the global crisis.
- Markets continued to have Greek and Irish bonds on their bad books.
Financial markets loose confidence in Greek government

- Fall 2009: run-up to a snap election and a land-slide government change (PM is Papandreou)
- In mid-October 2009, new government announces a substantial overshooting in the previous government’s projection for the value of Greece’s 2009 budget deficit, from 6% to 12.7% of GDP.
- Submission by the new government to the European Commission, of proposed public budget for 2010: spread hikes
- From March to May 2010, inter-governmental negotiations are tough: Germany opposes a Greek bailout while France is more favourable
- Initial announced plan is too small (45 M) to calm the markets
- April 23: the authorities formally request the activation of EU/IMF rescue mechanism
- Contagion to the euro area
Section 2

Two tales of crisis
The Greek crisis

- Unsustainable fiscal policy of previous governments (reminder: Kostas Karamanlis from 2004 to 2009):
  - Public debt is thought to be 105% of GDP Deficit is 14%!
  - First shock is a sovereign debt crisis with investors perceiving the debt of the Greek government as unsustainable, and no longer willing to finance the government deficit.
  - Second shock was a banking crisis: Greek banks had difficulty financing themselves in the interbank market, and their solvency was put in doubt because of projected losses to the value of their assets.
  - Third shock was a sudden stop: foreign investors were no longer willing to lend to Greece as a whole (government, banks, and firms), and so the country could not finance its current account deficit.
In May 2010, loan of 44% of 2010 GDP to avoid a default on its private creditors and reduce its government deficit more smoothly (110 bos Euros).

Financed by other EZ countries (2/3) and IMF (1/3).

In exchange, Greece engage in fiscal tightening and a battery of structural reforms.

The first adjustment program was rolled over into a second, agreed to in February 2012 and a third program began in August 2015.

In March 2012, debt restructuring with private creditors. Under the terms of this private-sector involvement (PSI), privately held government debt with face value of 199.2 billion euros was replaced by debt with a face value of 92.1 billion.

Greece was the only EZ country to default on its creditors.
Assistance to the Banks, Recapitalizations, and Capital Controls

- Assistance through ECB loans to its banking system
- Necessary to address the liquidity problems of Greek banks: from 48 billion euros in January 2010 to a maximum of 158 bios euros in February 2012, then dropped to 45 bios euros in November 2014, and then rose again to a maximum of 122 bios in September 2015.
- Political risk perceived:
  - ECB loans maxima around times when there was a high-perceived risk of Grexit.
  - Grexit risk was high around the double election of May and June 2012, and during the first half of 2015 after a new Greek government opposed to the adjustment programs had been elected in January 2015.
- Greek banks went through a series of three recapitalization: the total amount was 13.7 billion euros, of which 8 billion euros was raised from private sources via new investment and debt-equity conversions.
A long-lasting and painful crisis

- Greek GDP per capita declined by 25.8% between 2008 and 2014, much more sharply than in Ireland (6.1%), Italy (10.3%), Portugal (7.8%), and Spain (9.6%)
- Investment in 2014 was less than half of 2008 (decline much larger than in the rest of the periphery)
- Current account deficit went from 16.5% in 2008 to 2.2% in 2014
- Private savings declined but public saving compensated it meaning a very large austerity plan
- Debt to GDP from 103% in 2007 to 177% in 2014
- In total, Greece’s drop in output was significantly more severe and protracted than in previous crisis episodes and it has been accompanied by an unusually large drop in the investment-to-output ratio.
The Irish crisis

- The Republic of Ireland seceded from the United Kingdom of Great Britain and Ireland in 1922 (6 north-eastern counties remained in the UK as Northern Ireland).
- Ireland joined the European Union in 1973
- The state was plagued by poverty and emigration until the mid-1990s.
The boom and bust (Lane, 2011)

- Economic miracle during the 1994-2000, called the **Celtic Tiger years**.
  - Boom in FDI from US multinational firms implied increasing productivity growth
  - Favorable exchange rate boosted exports
  - Pro-cyclical expansionary fiscal policy
  - All these factors fueled demand and a resulting surge in inflation and real appreciation
The boom and bust in Ireland

- Short interruption in 2001 and resuming boom from 2003 and 2007 with different ingredients
  - Surge in construction activity
  - Boom in investment in housing and commercial property
  - Wealth effects fueled private consumption
  - Higher employment
Credit expansion and real estate boom

The credit expansion was accompanied by a boom in real estate construction.

Figure 1. Ratio of Private Credit to GDP.

Note: Ratio of private credit by deposit money banks and other financial institutions to GDP. Source: World Bank Financial Development Database.
Credit expansion and real estate boom

Funding coming from the wholesale markets with a mix of short-term interbank loans and long-term bonds issues

Fierce competition in the banking sector reduced the loans spreads
The burst: banking crisis

- The subprime crisis dried the interbank market so Irish banks could not maintain funding in the international wholesale markets.
- Real estate prices started declining sharply.
- Like in the US financial intermediary sector, the leverage amplified the initial shock.
Sovereign bails banks out
On September 30, 2008 the government of Ireland announced a guarantee of all deposits of its six biggest banks.
Later all unsecured bondholders of these banks receive a government guarantee.
Credit default swap (CDS) fee for buying protection on Irish banks fell from 400 bps to 150 bps.
From the standpoint of stabilizing the financial sector, the end goal of the guarantees appeared to have been met.
Bailouts and Risk Transfer

- Just one of the Irish banks, Anglo Irish, cost the government Euro 25 Billion or 11.26% of GDP by Aug 10
- Ireland received 85 Billion Euro rescue package by European Union and IMF in Nov 10
- Total is approximately 70% of 2010 GDP
- In total the crisis and the recapitalisation costs led to a sharp increase in gross government debt and in the sovereign risk.
- The capital transfers to Anglo-Irish Bank and INBS pushed the overall 2010 general government balance to 32 percent of GDP
Section 3

The sovereign crisis I
From financial to sovereign crisis

- Reinhart and Rogoff’s impressive database covers eight centuries of government debt defaults from around the world.
- Statistics on inflation rates, banking crises and international capital flows over the last two hundred years.
- Panoramic view of boom and bust cycle and the interplay between crises.
Figure 14.1. Cycles of past and ongoing real house prices and banking crises.
Real Economy

Figure 14.3. Cycles of past unemployment and banking crises.

Figure 14.4. Cycles of past real per capita GDP and banking crises.
TABLE 14.1
Fiscal deficits (central government balance) as a percentage of GDP

<table>
<thead>
<tr>
<th>Country, crisis year</th>
<th>Year before the crisis</th>
<th>Peak deficit (year)</th>
<th>Increase or decrease (–) in the fiscal deficit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina, 2001</td>
<td>–2.4</td>
<td>–11.9 (2002)</td>
<td>9.5</td>
</tr>
<tr>
<td>Chile, 1980</td>
<td>4.8</td>
<td>–3.2 (1985)</td>
<td>8.0</td>
</tr>
<tr>
<td>Colombia, 1998</td>
<td>–3.6</td>
<td>–7.4 (1999)</td>
<td>3.8</td>
</tr>
<tr>
<td>Finland, 1991</td>
<td>1.0</td>
<td>–10.8 (1994)</td>
<td>11.8</td>
</tr>
<tr>
<td>Indonesia, 1997</td>
<td>2.1</td>
<td>–3.7 (2001)</td>
<td>5.8</td>
</tr>
<tr>
<td>Japan, 1992</td>
<td>–0.7</td>
<td>–8.7 (1999)</td>
<td>9.4</td>
</tr>
<tr>
<td>Korea, 1997</td>
<td>0.0</td>
<td>–4.8 (1998)</td>
<td>4.8</td>
</tr>
<tr>
<td>Malaysia, 1997</td>
<td>0.7</td>
<td>–5.8 (2000)</td>
<td>6.5</td>
</tr>
<tr>
<td>Mexico, 1994</td>
<td>0.3</td>
<td>–2.3 (1998)</td>
<td>2.6</td>
</tr>
<tr>
<td>Norway, 1987</td>
<td>5.7</td>
<td>–2.5 (1992)</td>
<td>7.9</td>
</tr>
<tr>
<td>Spain, 1977*</td>
<td>–3.9</td>
<td>–3.1 (1977)</td>
<td>–0.8</td>
</tr>
<tr>
<td>Sweden, 1991</td>
<td>3.8</td>
<td>–11.6 (1993)</td>
<td>15.4</td>
</tr>
<tr>
<td>Thailand, 1997</td>
<td>2.3</td>
<td>–3.5 (1999)</td>
<td>5.8</td>
</tr>
</tbody>
</table>

Sources: International Monetary Fund (various years), Government Financial Statistics and World Economic Outlook, and the authors' calculations.

*As shown in figure 14.4, Spain was the only country in our sample to show a (modest) increase in per capita GDP growth during the postcrisis period.
Figure 14.5. The cumulative increase in real public debt in the three years following past banking crises.

Sources: Appendixes A.1 and A.2 and sources cited therein.
Sovereign Risk

- Chile, 1980
- Argentina, 2001
- Indonesia, 1997
- Malaysia, 1997
- Korea, 1997
- Thailand, 1997
- Historical average
- Colombia, 1998
- Finland, 1991
- Japan, 1992
- Norway, 1987
- Sweden, 1991
- Hong Kong, 1997
- Mexico, 1994

Peak-to-Trough Index Declines (Percent)
From financial to sovereign crisis

- In general, a financial crisis causes low income and high interest rates, which makes sovereign (government) debt hard to repay (Reinhardt and Rogoff, 2009).
The fiscal legacy of financial crises

- Fiscal consequences of banking crises: not only bailout costs
- Banking crises weaken fiscal positions because government revenues contract and stimulus plans.
- Ex: Finland and Sweden. Declining revenues, higher expenditures implied budget from +4% GDP to -15%!
- A high incidence of global banking crises has historically been associated with a high incidence of sovereign defaults on external debt
- "Perhaps Ecuador's latest default (December 2008) on its external debt is a sign of things to come" Reinhardt and Rogoff, 2009 (sic)
The other twin crises
Beyond the fundamentals

- The previous analysis is useful but not enough to explain the dynamics of bond spreads
- In 2012, investors were talking about *cliff risk*
- Policymakers also complained about growing mistrust by investors, and subsequent self-reinforcing dynamics.
- Contagion across peripheral countries
- Emphasis on internal objectives and the subsequent lack of coordination fueled speculation.
- Fundamentals deterioration alone could not justify the sudden eruption of the bonds yields
- An important and unique amplification mechanism was at play
Section 4

The sovereign crisis II: The feedback loop
Feedback loops

- In Ireland, sovereign spreads were negligible until investors felt that the banking system was becoming a serious issue for the country as a whole.
- Greece illustrates the reverse dynamics, with public finances becoming an issue for the banks.
- Regardless of whether the initial shock concerned bank balance sheets or sovereign debt, the spread and the bank CDSs started to co-move.
- Dangerous feedback loop amplified the risk.
Quality of the banking sector and sovereign risk Acharya, Drechsler and Schnabl (2012)

(a) Short-run

(b) Long-run

Note: This Chart shows the relation between average bank CDS by country before the bank bailouts (as of September 26th, 2008) and the increase in sovereign CDS after the bank bailouts (from September 26th, 2008 to October 21st, 2008). We include all European countries with available data on sovereign CDS and bank CDS.

Sources: Datamatrix (bank and sovereign CDS data) and Acharya, Drechsler, Schnabl (calculations).

Note: This Chart shows the relation between average bank CDS by country before the bank bailouts (as of September 26th, 2008) and the increase in sovereign CDS after the bank bailouts (from September 26th, 2008 to the European bank stress test on March 31st, 2010). We include all European countries with available data on sovereign CDS and bank CDS.

Sources: Datamatrix (bank and sovereign CDS data) and Acharya, Drechsler, Schnabl (calculations).
Banking risk and sovereign risk

- Positive relationship between the quality of the banking sector and the short-term change in the sovereign CDS.
- Countries with risky banking sectors, such as Spain and Ireland, had an increase in sovereign CDS of up to 50 bps, whereas countries with safe banking sectors, such as Norway or Sweden, experienced an increase of less than 20 bps.
Debt to GDP and sovereign risk

Chart 2

(a axis: debt-to-GDP ratio before bailouts, y axis: change in sovereign CDS after bailouts, in basis points)

a) Short-run

b) Long-run

Country short
Fitted values

Country long
Fitted values
Debt to GDP and sovereign risk

- Positive relationship between the pre-bailouts size of debt-to-GDP and the short-term change in the sovereign CDS.
- Countries with a high debt-to-GDP ratio, such as Italy and Greece, experienced an increase in bank CDS of up to 50 bps, whereas countries with a low debt-to-GDP ratio, such as Finland and Germany, experienced an increase of less than 20 bps.
Debt to GDP and sovereign risk

- Ireland is prominent in the banking sector chart (Chart 1) but an outlier with regard to the debt-to-GDP ratio (Chart 2).
- In contrast, Italy is prominent in the debt-to-GDP (Chart 2) but an outlier with regard to the banking sector (Chart 1).
- Some countries, such as Ireland, entered distress due to significant debt overhang in the financial sector, whereas others, such as Italy, entered distress due to sovereign debt overhang.
Bank CDS and sovereign CDS by bank rating

Table 1
Bank CDS and sovereign CDS by bank rating

<table>
<thead>
<tr>
<th>Dependant variable</th>
<th>Log(Bank CDS)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
</tr>
<tr>
<td>Rating A</td>
<td>0.454**</td>
</tr>
<tr>
<td></td>
<td>(0.098)</td>
</tr>
<tr>
<td>Rating BBB</td>
<td>0.724**</td>
</tr>
<tr>
<td></td>
<td>(0.148)</td>
</tr>
<tr>
<td>Rating (AAA or AA) * Log(Sovereign CDS)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Rating A * Log(Sovereign CDS)</td>
<td>0.307**</td>
</tr>
<tr>
<td></td>
<td>(0.100)</td>
</tr>
<tr>
<td>Rating BBB * Log(Sovereign CDS)</td>
<td>0.265*</td>
</tr>
<tr>
<td></td>
<td>(0.108)</td>
</tr>
<tr>
<td>Constant</td>
<td>4.530**</td>
</tr>
<tr>
<td></td>
<td>(0.072)</td>
</tr>
<tr>
<td>Time Fixed Effects</td>
<td>Y</td>
</tr>
<tr>
<td>Observations</td>
<td>41,763</td>
</tr>
<tr>
<td>Banks</td>
<td>83</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.180</td>
</tr>
</tbody>
</table>

The table shows regressions of bank CDS on bank credit ratings and sovereign CDS for the period from November 2008 to December 2010 using daily data. The sample includes all banks that have more than USD 50 billion in assets in Bankscope, have an investment grade rating from S&P in RatingsXpress, and have traded CDS in Datastream. The omitted category is Rating AAA and AA. The standard errors are clustered at the bank-level. ** 1% significant and * 5% significant.
Source: Acharya, Drechsler, Schnabl.
Financial crisis cause the economic growth to collapse as financial intermediaries engage in de-leveraging and a credit crunch ensues.

To avoid such a credit crunch and loss of real sector output, governments engage in large-scale, often blanket, financial sector bailouts.

But bailouts require immediate issuance of additional debt by the sovereign implying immediate increase in the sovereign’s credit risk through the liability side of its balance-sheet.

Perversely, the deterioration in the sovereign’s creditworthiness introduces the risk that its credit problems will feed back adversely onto its financial sector.
Home bias and reverse feedback from sovereign to banks

**Chart 3**
Home bias in Government debt

(y axis: home share; x axis: country)

AT = Austria; BE = Belgium; DE = Germany; DK = Denmark; ES = Spain;
FI = Finland; FR = France; GB = United Kingdom; GR = Greece; IE = Ireland; IT = Italy;
LU = Luxembourg; NL = Netherlands; NO = Norway; PT = Portugal; SE = Sweden.

This Chart shows the average holdings of home sovereign debt as a share of total sovereign debt by country as of the European bank stress tests on March 31st, 2010. Sources: 2010 European bank stress tests (home share and Acharya, Drechsler, Schnabl (calculations))
The inverse causality direction

- In 2010, for every six euros of RWA, the 91 stress-tested European banks held on average one euro of sovereign bonds
Home bias and reverse feedback from sovereign to banks
Circularity between banks and sovereigns

- Direct holdings of government bonds by financial firms
- The expected sovereign default worsens banks’ prospects, as they have sovereign bonds.
- Implicit guarantees of the financial sector by governments
- The collapse of the banks deteriorates the sovereign risk encouraging speculative attacks against the sovereigns.
Regime-switch (Delatte, Fouquau and Portes, 2016)

Figure 4: Transition function in Greece and Ireland from 2006 to 2012
Section 5

Breaking the loop
Need for a radical backstop

- Traditional banking models advocate a lender-of-last-resort policy or other expansionary policies to mitigate the bank-run problem.
- Who could provide LLR or expansionary policy without making a default even more likely?
Draghi’s speech

On July 2012, Mario Draghi gives a speech in which he claims he will ”do whatever it takes” to rescue euro.
Effect of the "whatever it takes"

- Sudden decline of the spreads that cannot be due to the evolution of fundamentals.
Dynamics after Draghi’s speech

Figure 5: Transition functions from 2006 to 2014

Italy, Portugal, Spain

Greece Ireland
Break of the feedback loop

- The model shifts back progressively to the first regime after July 2012.
- The reversion to the non crisis regime is driven by a break of the vicious feedback loop between the sovereign and the banks.
- The ECB breaks the sovereign-bank nexus and interrupted the feedback loop.
- It occurs even before any liquidity is actually provided and any macro-prudential measures such as the banking union
- This bought time while macro-prudential measures are being implemented.
Section 6

A Balance of Payment Crisis without devaluation
Massive capital outflows from the periphery

- In 2007, collapse of financial flows both within the euro area and with ROW.
- Graph shows volume of cross-border flows within the euro area.
- Withdrawals of funds from other euro area countries.
- The situation further worsened from 2010 onwards with the periphery countries effectively facing a 'sudden stop' of private financial flows.
- French banks compensated for the drop of funding from Germany because of their large exposure to the periphery (highest exposure to Spain, Greece and Italy) but ended up withdrawing funds too.

Source: Hobza and Zeugner (2014)
The role of official financing

Figure 2: Total and private capital inflows, selected southern euro-area countries, 2002-11 [% 2007 GDP]
Official capital replaced private capital

- EU/IMF assistance programmes
- Provision by the Eurosystem of liquidity to the banking sector (captured by the development of Target balances)
- ECB purchases of sovereign bonds under the Securities Market program.

Source: Merler and Pisani-Ferry (2012)
Tough political controversy

- In total, public money, especially Eurosystem financing, has helped accommodate persistent current account deficits.
- **Cons:** Hans Werner Sinn: "Hidden Eurozone bail-out"
- **Pros:**
  - ECB liquidity allows sound banks in stressed countries to cover their liquidity needs.
  - Substitution of private capital inflows by public ones has provided a buffer against the drying up of private liquidity.
  - One of the several risk-sharing mechanisms to make the single currency area sustainable.
Takeaway and forward

- Initial shock: the rapid loss of EZ investors’ trust in the deficit nations
- Several amplification mechanisms:
  - Predominance of bank financing in Europe, thinly capitalized and extremely large relative to the countries’ GDP: systemic risk.
  - *Double drowning* scenario or doom loop: deadly helix of rising risk premiums and deteriorating budget deficits sucked nations into a debt default vortex.
  - The governments under pressure had no LLR because initially the ECB was prohibited to play the role
Takeaway and forward

- The fact that sovereign debt was under pressure blurred the analysis: was it a sovereign debt crisis?
- A consensus has emerged among economists that the EZ crisis was a balance of payment cum banking crisis not a sovereign crisis.
- In the next chapter, we examine the policy responses to manage the crisis.