The Euro Crisis through the Lens of Capital Flow Reversals

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Three (Interlocking) Features of the Euro Crisis

- Sovereign debt crisis

- Banking crisis

- Balance of payments crisis
  - Cross-border capital flow reversal
  - “Sudden Stop”

Common thread is the bank leveraging/deleveraging cycle
Corporate Finance of Banking

A
Assets
Equity
Debt

L
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Diagram showing the shift from Assets to Equity and back to Assets.
Barclays: 2 year change in assets, equity, debt and risk-weighted assets (1992 -2010)

$y = 0.9974x - 0.175$

$R^2 = 0.9998$

Figure 1. Barclays: 2 year change in assets, equity and debt (1992-2010) (Source: Bankscope)
Figure 2. Société Générale: 2 year change in assets, equity and debt (1999-2010) (Source: Bankscope)
Core and Non-Core Bank Liabilities

- **Core**: Liabilities to domestic household and non-financial claim holders
- **Non-Core**: Liabilities to financial intermediaries and foreign creditors

Ratio of non-core to core liabilities is:

- Procyclical
- Mirrors lowering of credit standards
Borrowers \rightarrow \text{Banking Sector} \leftrightarrow \text{Domestic Depositors}
Composition of Northern Rock’s Liabilities
(June 1998 - June 2007)

Figure 3. Liabilities of Northern Rock (1998 - 2007) (Source: Shin (2009))
Credit Quality and Non-Core Bank Liabilities

- Non-core liabilities reflect expansion in lending beyond “normal” levels
- Loans financed by non-core liabilities are of lower credit quality
- Even if liquidity support is forthcoming, loans made with lower credit standards go bad eventually
- Prolonged economic slumps exacerbate bad loans, without or without liquidity support (e.g. Japan)
- Short-term non-core is vulnerable to reversal
Figure 4. Non-core liabilities of Korean banks (Source: Shin and Shin (2010), data from Bank of Korea)
Figure 5. Non-core liabilities of Korean banks as proportion of M2 (Source: Shin and Shin (2010), data from Bank of Korea)
Figure 6. Cross-border euro-denominated claims and liabilities of eurozone banks (Source: BIS Locational Statistics, Table 5A)
Figure 7. Four quarter growth rate of cross-border euro-denominated liabilities of eurozone banks (Source: BIS Locational Banking Statistics Table 5A)
Figure 8. Foreign claims of European BIS-reporting banks on counterparties in Spain (Source: BIS consolidated banking statistics, Table 9D)
Figure 9. Foreign claims of European BIS-reporting banks on counterparties in Ireland (Source: BIS consolidated banking statistics, Table 9D)
Figure 10. Current account of Ireland and Spain (Source: IMF International Financial Statistics)
Figure 11. Spain: banking sector total domestic credit (Source: Bank of Spain)
Figure 12. **Spain**: Core liabilities of banking sector (Source: Bank of Spain)
Figure 13. **Spain**: funding gap of Spanish banks (Source: Bank of Spain)
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ECB
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Figure 14. **Spain**: funding gap of Spanish banks (Source: Bank of Spain)
Figure 15. **Spain**: Ratio of non-core liabilities to core liabilities of Spanish banks (Source: Bank of Spain)
Figure 16. Claims of German banks on Spanish counterparties (Source: Bundesbank)
Figure 17. Mortgage covered bonds outstanding by country and by year (Source: European Covered Bond Council Factbook 2012)
Figure 18. Mortgage covered bonds outstanding by country and by year (Source: European Covered Bond Council Factbook 2012)
Figure 19. **Spain**: stock and new issuance of mortgage covered bonds (Source: European Covered Bond Council)
Figure 20. Covered bond investors by residence (Source: European Covered Bond Council 2012)
Figure 21. Covered bond investors by type of institution (Source: European Covered Bond Council 2012)
Comparing Spain and Korea

• Both Korea and Spain highlight role of non-core liabilities

• Korea’s non-core is
  – Short maturity
  – Denominated in foreign currency

• Spain’s non-core is
  – Medium to long maturity
  – Denominated in domestic currency

Euro crisis is a tale of cross-border banking flows in domestic currency
Some Historical Parallels for Spain

- US mortgage crisis 2007
- Japan’s bursting bubble 1990

Slow deleveraging eventually results in bad assets and public recapitalization of banks

How much? How soon? How?

Some lessons from Japan
Figure 22. **Japan**: Loans and discounts of major and regional banks (in red) and M2 money stock (in blue)  
(Source: Flow of Funds, Bank of Japan)
Figure 23. Numerator is loans to non-MFIs (monetary and financial institutions), excluding general government. Denominator is deposit liabilities to non-MFIs excluding central government (Source: European Central Bank)
Figure 24. **Eurozone**: Loan to deposit ratio. Numerator is loans to non-MFIs (monetary and financial institutions), excluding general government. Denominator is deposit liabilities to non-MFIs excluding central government (Source: European Central Bank)
Figure 25. **Eurozone and Japan**: Loans in Euro area (in red) and in Japan (in blue) normalized to 1.0 at crisis date, and measured in months from the crisis date. Eurozone crisis date is September 2008. Crisis date for Japan is January 1991 (between stock market peak and real estate peak).
Figure 26. Fiscal costs of banking crises (Source: Patrick Honohan and Daniela Klingebiel (2000) “Controlling Fiscal Costs of Banking Crises”, World Bank)
Figure 27. Ratio of domestic private credit to GDP (Source: World Bank)
Lessons for Eurozone from Japan

- **Liquidity** versus **solvency**
  - Comparing Eurozone LTRO with BOJ’s monetary policy in 90s
  - Loans granted during the bubble phase almost always go bad, and must be written off eventually...

- Pre-condition for restructuring is **political will**, which needs shared diagnosis of crisis
  - Japan’s deleveraging started 7 years after crisis date (see figure)
  - Restructuring entails **fiscal costs**, which is an added complication in Eurozone

**Question:** How well can the institutions and governance structure of the Eurozone cope with strains of the restructuring process?