Chapter 8: Economic policy and the crisis

"I have noticed that many people are put off from our teaching because we know the answer to everything. Couldn't we in the interests of propaganda draw up a list of questions which appear to us completely unresolved?"

Bertolt Brecht
Ongoing debates

- Why the crisis?
  - Why did the crisis occur?
  - Why did the subprime debacle engulf the whole financial system?
  - Why have its consequences been so severe?
  - What has been the responsibility of economic policy?
- Has the policy response been right?
  - Short term crisis containment (monetary / fiscal)
  - Longer term policy reforms
- What will be the consequences?
- The Queen’s question: why haven’t economists seen it coming?
  - (and therefore are they qualified to make recommendations for the future?)

Outline

1. A brief account of the crisis
2. What went wrong (a): the easy part
3. What went wrong (b): the harder part
4. Assessing the crisis response
5. The medium term
6. The economists and the crisis
A brief account of the crisis

Phase 1: clouds gather

<table>
<thead>
<tr>
<th>Date</th>
<th>Events</th>
<th>Policy responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006-Summer 2007</td>
<td>Localised credit concerns in the US</td>
<td>• Central banks extend liquidity to banks through exceptional tranders</td>
</tr>
<tr>
<td>Summer-Autumn 2007</td>
<td>Initial cracks in confidence and liquidity strains</td>
<td>• Run on British bank Northern Rock</td>
</tr>
<tr>
<td>Autumn 2007-early Summer 2008</td>
<td>Accumulation of losses and continuation of liquidity strains</td>
<td>• Continued liquidity support by central banks</td>
</tr>
<tr>
<td>Summer 2008</td>
<td>Intensification of losses and liquidity strains</td>
<td>• US government bails out investment bank Bear Stearns and sells it to JPMorgan</td>
</tr>
</tbody>
</table>

Phase 2: The perfect storm

<table>
<thead>
<tr>
<th>Date</th>
<th>Events</th>
<th>Policy responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 2008</td>
<td>• Backruptcy of US investment bank Lehman Brothers</td>
<td>• US government bailout of insurer ASG</td>
</tr>
<tr>
<td>Autumn 2008 - Spring 2009</td>
<td>Crisis transmitted to real economy</td>
<td>• Widening of collateral and wholesale liquidity support by central banks</td>
</tr>
<tr>
<td></td>
<td>• Sharp decline in industrial production and GDP</td>
<td>• Governments assist banks through capital injections and funding guarantees</td>
</tr>
<tr>
<td></td>
<td>• Series of financial crises in emerging Europe as capital flows suddenly stop</td>
<td>• Explicit commitment that systemic banks will not be allowed to fail</td>
</tr>
<tr>
<td></td>
<td>• Collapse of world trade</td>
<td>• Central banks turn to unconventional policies</td>
</tr>
<tr>
<td></td>
<td>• Slow normalization of interbank markets</td>
<td>• Large-scale government stimulus</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• International coordination of crisis responses</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• International swap agreements</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• IMF-led assistance programs</td>
</tr>
</tbody>
</table>
Market temperature

International transmission: The IMF heat map
Economic consequences

IMF growth forecasts for 2009, April 2008-April 2009 vintages

Then and now

World industrial production, 1929- and 2008-
What went wrong?

• Some questions are easier to answer
  – Fault lines in the financial system
  – Economic vulnerabilities
• Some are more difficult and may not be answered before long
  – Channels of amplification
  – Root causes

No surprise the O&D model deteriorated credit quality

• Securitisation: transformation of bank loans into marketable securities
• Emerged in the 1970s
• Pooling of bank loans was supposed to *diversify risk*
• Tranching was supposed to decompose an asset into tranches of increasing risk and return
• Resulted in the *Originate and Distribute* model of credit
• Unlimited securitisation however made lenders less wary of the individual creditworthiness of the borrower (Berndt and Gupta 2009)
• This was standard moral hazard
• (just one of many micro failures)
A primer on securitisation

<table>
<thead>
<tr>
<th>Loan (asset)</th>
<th>Securities (liabilities)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total loan 100</td>
<td>Senior tranche 80%; 4.5% return</td>
</tr>
<tr>
<td>Reimbursement and return</td>
<td>Capital and return</td>
</tr>
<tr>
<td>110 (50% prob)</td>
<td>80 (1 + 4.5%) = 83.6</td>
</tr>
<tr>
<td>105 (30% prob)</td>
<td>83.6</td>
</tr>
<tr>
<td>100 (10% prob)</td>
<td>83.6</td>
</tr>
<tr>
<td>90 (10% prob)</td>
<td>83.6</td>
</tr>
<tr>
<td>Expected return</td>
<td>4.5%</td>
</tr>
<tr>
<td>Variance</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: adapted from Creel, Mathieu and Sterdyniak (2009)

No surprise Europe was hit by the financial crisis, not Asia

Foreign Holdings of US bonds (in % of GDP)

<table>
<thead>
<tr>
<th>Country</th>
<th>Mid 2007</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Treasury</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>113%</td>
</tr>
<tr>
<td>Ireland</td>
<td>6%</td>
</tr>
<tr>
<td>Belgium</td>
<td>3%</td>
</tr>
<tr>
<td>Switzerland</td>
<td>3%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>2%</td>
</tr>
<tr>
<td>Netherlands</td>
<td>2%</td>
</tr>
<tr>
<td>Germany</td>
<td>1%</td>
</tr>
<tr>
<td>Japan</td>
<td>14%</td>
</tr>
<tr>
<td>France</td>
<td>11%</td>
</tr>
<tr>
<td>Korea</td>
<td>4%</td>
</tr>
<tr>
<td>China</td>
<td>14%</td>
</tr>
<tr>
<td>Russia</td>
<td>3%</td>
</tr>
</tbody>
</table>

Source: U.S. portfolio surveys, Milani-Ferretti (2009), Bruegel calculations

Foreign dollar-denominated claims of the banking sector (% of annual GDP)
No surprise Asia was hit through trade

Bilateral trade exposure as percentage of GDP, 2006

Source: Cohen-Setton and Pisani-Ferry (2008)

No surprise emerging markets were hit by sudden stops

Source: Darvas and Pisani-Ferry (2008)
No surprise many countries now need to deleverage

Source: Eurostat, ECB, Fed, Barclays capital

No surprise financial paralysis is having major consequences

Source: Pisani-Ferry and Van Pottelsberghe (2009)
..and many more non-surprises

- Economists have many useful things to say about the crisis
- But some questions are harder to answer (and they may not be answered before long: Friedman’s take on the Great Depression came thirty years after, and Bernanke’s fifty)

These are the interesting ones

What went wrong (b):
The harder part

a. Underlying causes of the crisis
b. Amplification mechanisms
c. Regulatory policy lessons
d. Macroeconomic policy lessons
a. Underlying causes

- Compelling evidence of micro failures
  - O&D model and moral hazard
  - SIVs
  - Conflicts of interest in the rating business
  - Compensation practices and risk-taking
  - Procyclicality of capital ratios
- What is surprising is not the complexity of mechanisms involved, rather that prevailing practices violated elementary contract theory
- Why so many failures?
  - Insufficient regulation?
  - Inadequate regulation?
  - Regulatory capture?
- Political economy remains to be written

Pure micro roots

- Insufficient regulation
- Misguided regulation
- Monetary policy failure
- Global imbalances
- Lack of resilience
- Asset shortage
- Exchange rate policies
Is the micro story sufficient?

- Failures did not appear in the mid-2000s
- Need for macro story?

“The fundamental underlying factor which made the crisis possible was the ample liquidity and the related low interest rate conditions which prevailed globally since the mid nineties”.
Larosière report, 2009

“At the core of the crisis lay an interplay between macro-imbalances which had grown rapidly in the last ten years, and financial market developments and innovations”.
Turner review, 2009

- However more than one macro story

A failure of monetary policy?

The Taylor critique: is it sufficient?
A consequence of macro imbalances?

- Imbalances thesis put forward by central bankers (Bernanke), regulators (Turner, Larosière) and academics (Caballero et al., Rajan), but no consensus
- Some empirical support for global savings glut – low interest rates link (Warnok and Warnok 2009)
- But why?
  - Asset shortage theory is nice rationalisation but lacks empirical backing (explains private inflows, not public inflows)
  - Bretton Woods 2 theory has empirical support but lacks analytical underpinnings
- More research needed there to underpin prescriptions

b. Amplification mechanisms

- US losses on non-prime mortgage (Oct. 2008): $100bn = 0.7% of US GDP = 0.2% of world GDP
- US losses on MBS securities: $500bn
- US S&L losses (early 1990s): equivalent to $1700bn

Do we understand why small causes had huge effects?
- Contamination theory: transformation of information-insensitive debt into information-sensitive debt (Gorton, 2009)
- Fragility theory
  
  “Complexity got the better of us” (Lloyd Blankfein)

Significantly different implications
A Black Swan?


But beyond a certain range, the system can flip the wrong side of the knife-edge. Interconnections serve as shock-amplifiers, not dampeners, as losses cascade. The system acts not as a mutual insurance device but as a mutual incendiary device.

In just about every non-financial discipline [the combination of increased complexity and reduced diversity] would have set alarm bells ringing. Based on their experience, complexity plus homogeneity did not spell stability; it spelt fragility.”

Andrew Haldane (2009)

Conclusion

• Agreement on some of the causes of the crisis:
  – Perverse incentives
  – Lack of information
  – Regulatory holes and regulatory capture
  – Piecemeal approach to financial stability
  – Lack of an effective warning mechanism

• All this is true but does it answer the question?
• How good a guide for action?
c. Regulatory policy lessons

- Significant G20 regulatory agenda this far:
  - Closure of regulatory gaps (eliminate loopholes, havens)
  - Incentive realignment (compensations, countercyclical buffers)
  - Strengthening of market infrastructures (OTC markets)
  - Emergence of macroprudential approach
- Sensible agenda
  - Not yet in place, requires some more hard implementation work
  - Not an easy task for large and diverse G20 (rules for Tatas or for Ferraris?)

Limitations however

- Agenda leaves aside some crucial issues
  - Moral hazard, 2B2F
  - Structure and resilience of financial system
  - Growth-stability trade-offs (capital ratios)
  - Cross-border banking and size of financial sector
d. Macroeconomic policy lessons

Less progress on macro front

• Slow start until Pittsburgh (no consensus on role of monetary policy, macro imbalances)

• Fast move on macroprudential approach but uncertainty about what it can deliver
  – An additional instrument? Or merely an embellished early warning system?
  – Europe / US differences

• Uncertainty over feasible degree of coordination
  – Is the G20 trying to achieve what neither the G7 nor the EU have achieved?

Further issues ahead

• Monetary policy framework
  – Science 0 – Art 1, deep consequences

• International rules of the game
  – Is the conversation on monetary regimes starting again for real?

• Stress-tests for policies
  – Public sector even worse than private sector
4. Assessing the crisis response

a. The problem

b. The response
   – Direct liquidity provision
   – Bank rescue and restructuring
   – Zero interest rate policy
   – Budgetary stimulus

c. International dimensions

a. The problem

• No reliable valuation of significant portion of bank assets
• Concerns over solvency of several major banks in the context of heightened risk aversion
• Generalised rush to liquidity but contraction of interbank lending as a consequence of counterparty risk
• Banks cut off from access to liquidity facing bankruptcy risk
• Problems compounded by US Treasury decision to let Lehman Brothers fail
• All this resulting in systemic crisis, serious risk of collapse of entire financial system
The response

<table>
<thead>
<tr>
<th>Governments</th>
<th>Central banks</th>
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<tbody>
<tr>
<td>Micro</td>
<td>Micro support</td>
</tr>
<tr>
<td></td>
<td>- guarantees</td>
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<tr>
<td></td>
<td>- capital</td>
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<tr>
<td></td>
<td>injections</td>
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<tr>
<td>Macro</td>
<td>Macro stimulus</td>
</tr>
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<td></td>
<td>Zero interest</td>
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<tr>
<td></td>
<td>rate</td>
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<tr>
<td></td>
<td>Quantitative</td>
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<tr>
<td></td>
<td>easing</td>
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</tbody>
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Banking sector support

Overall economic support

The Fed response in a nutshell

Federal Reserve Balance Sheet, 01/2007-12/2009

Source: Cleveland Fed
Base money vs. monetary aggregates

US base money and monetary aggregates

Source: von Hagen (2009)

Bank support: what has been done

Capital injections (percent of GDP)

Counterpart on bank balance (percent of GDP)

Fiscal expansion

Discretionary Crisis-related Spending in the G20, 2009

Source: IMF (Horton et al., 2009), Bruegel calculations

Beyond liquidity support: unconventional monetary policies at the zero bound

Table 3 - Categories of unconventional monetary policy operations involving asset purchases

<table>
<thead>
<tr>
<th>Purchase of private assets</th>
<th>No expansion of base money (qualitative easing)</th>
<th>Expansion of base money (quantitative easing)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(credit easing)</td>
<td>ECB</td>
<td>BoE, BoJ, Fed, SNB</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Purchase of government bonds</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BoE, BoJ, Fed, SNB</td>
<td></td>
</tr>
<tr>
<td>Purchase of foreign-currency assets (forex intervention)</td>
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</tbody>
</table>
International dimensions

5. The medium run

• Financial crises and potential output
• Budgetary adjustments
• Exit strategies
Deep crises result in permanent loss of output

- Economy resumes growth at the same rate,
- Labour productivity is stable,
- but labour input remains lower,
- and hence the growth path.

- **Japanese policy**: weak and ill-designed, maintained banks artificially
- **Swedish policy**: banks recapitalized, some nationalized, economic transformation

..but not always

![Graphs showing GDP trends for Japan and Sweden](image)
Required magnitude of budgetary adjustment (IMF estimates)

Starting and Ending Primary Balances, 2010-2020

...to bring debt below 60 percent of GDP (or to pre-crisis levels) by 2030

Exit strategies: Interdependence across instruments

Table 2: Direct and indirect impact of exit policies on exit and other major objectives

<table>
<thead>
<tr>
<th>Exit policies</th>
<th>Impact on exit objectives</th>
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<tbody>
<tr>
<td></td>
<td>Budgetary sustainability</td>
</tr>
<tr>
<td>Direct impact in red</td>
<td></td>
</tr>
<tr>
<td><strong>Budgetary consolidation</strong></td>
<td>-</td>
</tr>
<tr>
<td><strong>Monetary tightening</strong></td>
<td>-</td>
</tr>
<tr>
<td><strong>Withdrawal of liquidity support</strong></td>
<td>+</td>
</tr>
<tr>
<td><strong>Withdrawal of government guarantees</strong></td>
<td>+</td>
</tr>
<tr>
<td><strong>Bank recapitalisation and restructuring</strong></td>
<td>+/-</td>
</tr>
<tr>
<td><strong>Macroeconomic oversight</strong></td>
<td>+</td>
</tr>
</tbody>
</table>

...
6. Lessons for policy economists

• Part of broader debate on the role and responsibility of the economic profession
• Specific issues:
  – Data dependence and information limitation: should we limit ourselves to working where there is light?
  – Reliance on models of limited scope: can we trade-off beauty for truth? Is there an optimal distance to beauty?
  – Cassandra’s complex: can we afford warning about the coming catastrophes?
  – Risks of bias: how can we avoid capture and guarantee research integrity?

References

- Eichengreen, Barry (2009), “The Last Temptation of Risk”, mimeo
- FMI, Global Financial Stability Report
- Taylor, John (2009), Getting Off Track, Stanford.