Curbing the Credit Cycle

David Aikman
Andrew G Haldane
Ben Nelson

Bank of England
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Crisis Cycle
Credit growth (UK, US and Euro area)
Crisis Cycle

Price-to-Book ratios (UK, US and European banks)
Policy Questions

• Is there a credit cycle?

• What friction drives the cycle?

• Is it distinct from the business cycle?

• Is it domestic/international?

• What tools best curb it?
Policy Questions and Answers

- Is there a credit cycle? **Yes**
- What drives the cycle? **Co-ordination failure**
- Is it distinct from business cycles? **Yes**
- Is it international? **Yes**
- What tools best curb it? **Macro-prudential**
Co-ordination Failures – Past and Present

• Keynes’ sound banker:
  “...is not one who foresees danger and avoids it, but one who, when he is ruined, is ruined in a conventional and orthodox way with his fellows, so that no one can really blame him”

• Prince’s sound banker:
  “...as long as the music is playing, you’ve got to get up and dance. We’re still dancing”.
Credit Cycle Dynamics

• Model of banking co-ordination failure

• Information friction:
  – Public can’t observe macro state ($\theta$) or banker ability (good/bad)

• Incentive friction:
  – Banks value short-run reputation ($\rho$) as well as long-run value ($c - a$)

• Reputational dynamics
  $\rho_i > 0$: “Keynes constraint”
  $\rho_\theta > 0$: “Prince constraint”

→ Strategic complementarity in lending decisions
Credit Cycle Dynamics

• Dual/multiple equilibrium: “Credit boom/bust”
  – Positive macro state
  → Reputational incentives to gamble/risk up ("risk illusion")
  → Reputational incentives to herd
  → Credit boom
  → Aggregate risk realised
  → Credit crunch

• Unique equilibrium ($\theta^*$)

$$\theta^* = f \left( \rho, \underbrace{c - a}_{\text{+}} \right)$$

→ Expectational equilibrium
Credit Cycle Dynamics

Low reputational weight

High reputational weight

θ  frictionless  θ*

θ (high γ)
Credit Empirics

• Schularick and Taylor (2009) data base
  – 12 countries
  – > 100 years
  – credit/bank asset growth

• Asset (housing and equity) prices

• Medium-term cyclical dynamics
  – band-pass filter
  – 8-20 year frequency
Credit/GDP ratios

UK

US

Year

loans:GDP
assets:GDP

loans:GDP
assets:GDP
Credit and Business Cycles

UK

US
Asset Price and Business Cycles

UK

US
## Credit Cycle and Crises

<table>
<thead>
<tr>
<th></th>
<th>Crisis Frequency (%)</th>
<th>Credit Boom Frequency (%)</th>
<th>% Credit Booms with Crisis Within 5 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>US</strong></td>
<td>22%</td>
<td>7%</td>
<td>67%</td>
</tr>
<tr>
<td><strong>UK</strong></td>
<td>16%</td>
<td>7%</td>
<td>78%</td>
</tr>
<tr>
<td><strong>France</strong></td>
<td>16%</td>
<td>8%</td>
<td>60%</td>
</tr>
<tr>
<td><strong>Canada</strong></td>
<td>12%</td>
<td>9%</td>
<td>55%</td>
</tr>
<tr>
<td><strong>Spain</strong></td>
<td>26%</td>
<td>10%</td>
<td>63%</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td>17%</td>
<td>7%</td>
<td>51%</td>
</tr>
</tbody>
</table>
Credit Cycle Spillovers

Dispersion of US bank/non-bank returns

Dispersion of US bank/non-bank ROEs
International Credit Cycles

Credit

GDP
Public Policy Implications

• **Case for intervention?** – Collective action problems in credit market

• **Monetary policy?** – Business and credit cycles distinct; monetary policy ill-suited.

• **Micro-prudential policy?** Collective action problem; micro-prudential policy ill-suited.

• **Macro-prudential?**
  – Systematic (act on banks collectively)
  – Signalling (importance of co-ordinating expectations)
  – International (reciprocity rules between countries)

• **FSOC/ESRB/FPC** (nationally) and **G20/FSB/BCBS** (internationally) guardians of framework
UK Credit Cycle and Monetary Regimes

(1) Gold Standard
(2) Inter-war suspension
(3) Resumption of Gold Standard
(4) Sterling Area
(5) Bank of England nationalised; Bretton Woods
(6) Bretton Woods; Sterling full external convertibility
(7) Monetary Targeting
(8) Exchange Rate Mechanism
(9) Inflation Targeting
(10) Bank of England independence
(1) Gold Standard
(2) Inter-war suspension
(3) Resumption of Gold Standard
(4) FDIC established; Federal Reserve reorganisation
(5) Bretton Woods
(6) Treasury-Federal Reserve Accord (1951)
(7) End convertibility into gold (“Nixon Shock”) (1971)
(8) Volker era
(9) Greenspan era
(10) Bernanke era