BANK FOR INTERNATIONAL SETTLEMENTS

Macroprudential policy and the financial cycle: Some stylised facts and policy suggestions

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Introduction

- Objective: provide context
  - Explore the major source of systemic risk:
    - The financial cycle (FC)
      - link with systemic financial crises ("financial distress" (FD)) and the business cycle
  - Stylised facts and reflections on macroprudential policy
- FC = Self-reinforcing interaction between risk perceptions/tolerance and financing constraints
  - can lead to widespread FD and macroeconomic dislocations
  - "procyclicality" of the financial system
- Thesis
  - FC should be at the core of our understanding of the macroeconomy
  - Significant implications for design and limits of macroprudential policy (MaP)
  - But other macro policies need to adjust as well (monetary (MP) and fiscal (FP))
- Structure
  - I - What are the key properties of the FC? 7 properties
  - II - What policy issues does it raise? 4 observations

I. The FC: 7 key properties

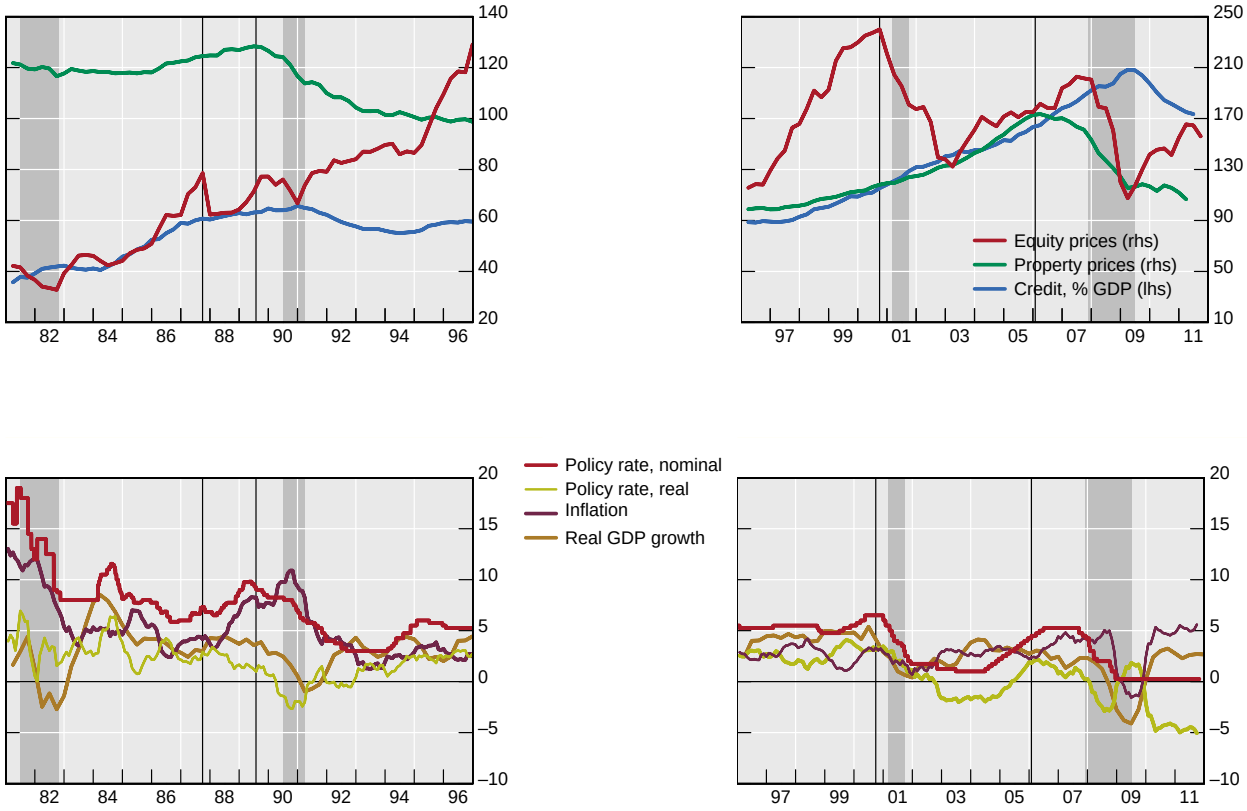
- **P1:** Most parsimonious description: credit and property prices
  - Equity prices can be a distraction (Graph 1)

- **P2:** The FC has a lower frequency than traditional business cycle
  - (medium term!) 16-20 years approximately of late (Graph 2)
    - Traditional business cycle: up to 8 years

- **P3:** Peaks in the FC tend to coincide with FD (Graph 2)
  - Post-1985 all peaks do in sample of advanced economies examined
  - Few crises do not occur at peaks (all "imported": cross-border exposures)

- **P4**: Risks of FD can be identified in real time with good lead (2-4 years)
  - (Private-sector) credit-to-GDP and asset prices (especially property prices) jointly exceeding certain thresholds (Graph 3)
    - proxy for financial imbalances
  - Cross-border credit often outpaces domestic credit (Graph 4)

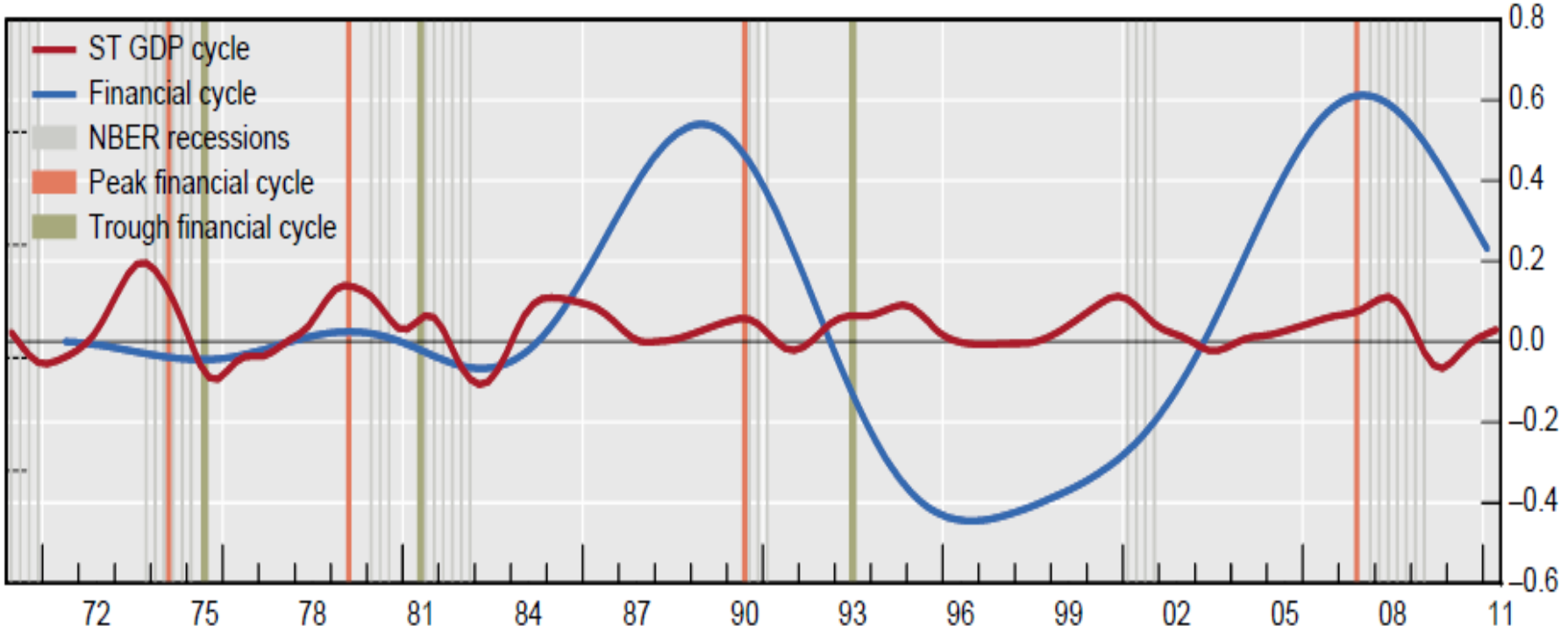
Graph 1: Unfinished recessions: US



Source: Drehmann et al (2012)

Graph 2: The financial cycle is longer than the business cycle

the United States example

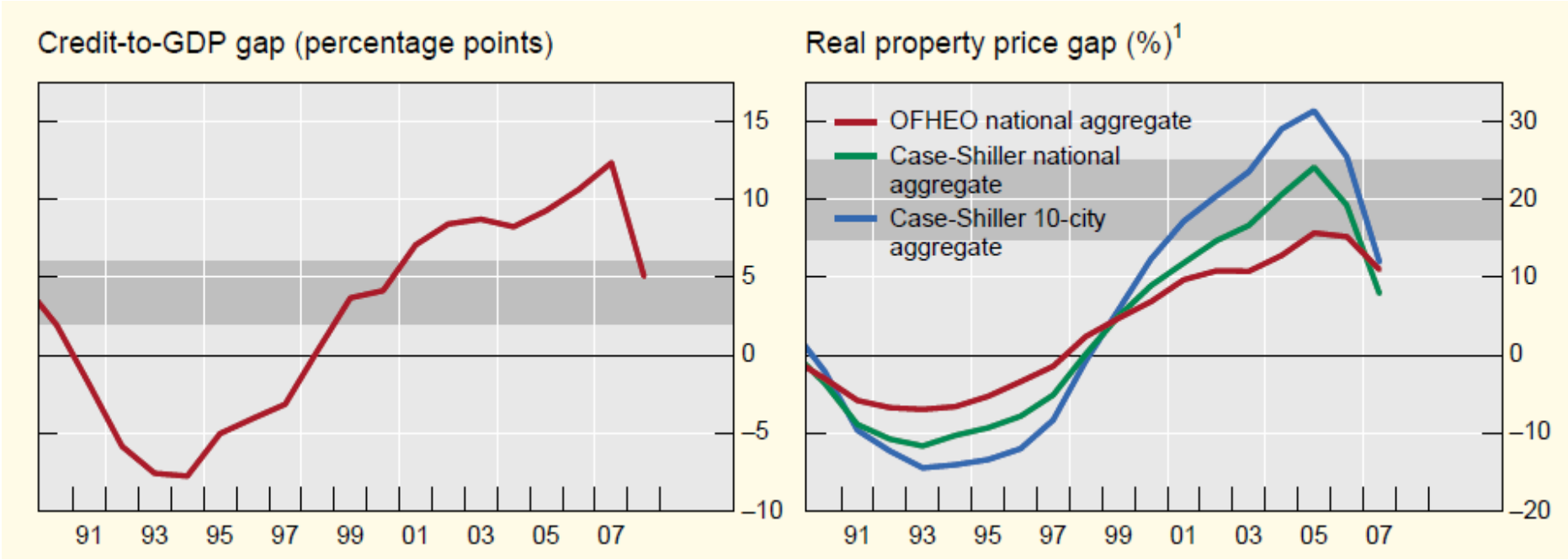


Note: Pink and green bars indicate peaks and troughs of the combined cycle using the turning-point (TP) method. The frequency-based cycle (blue line) is the average of the medium-term cycle in credit, the credit to GDP ratio and house prices (frequency-based filters). The short-term GDP cycle (red line) is the cycle identified by the short-term frequency filter.

Source: Drehmann et al (2012)

Graph 3: Financial imbalances can be identified in real time

The US example

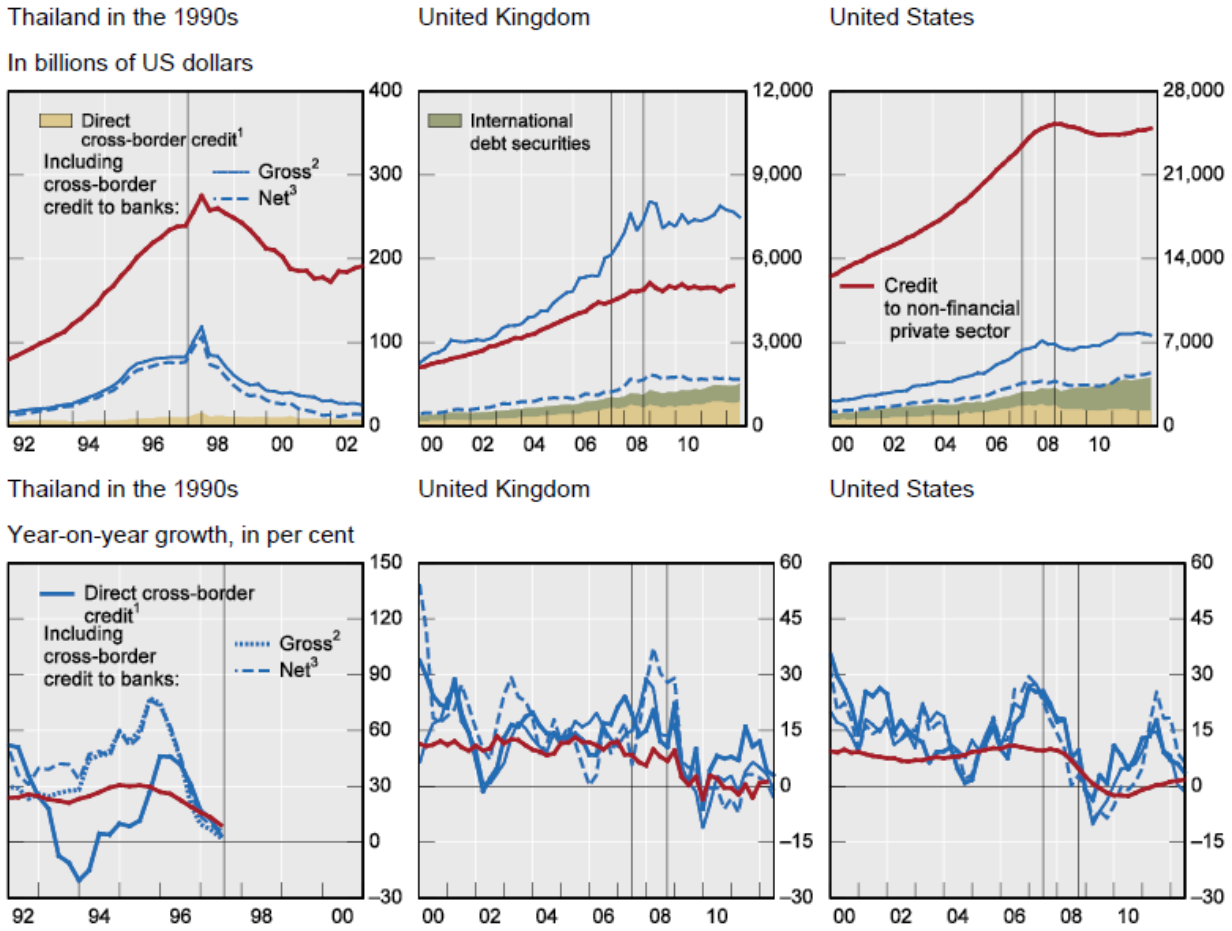


The shaded areas refer to the threshold values for the indicators: 2–6 percentage points for credit-to-GDP gap; 15–25% for real property price gap. The estimates for 2008 are based on partial data (up to the third quarter).

[1] Weighted average of residential and commercial property prices with weights corresponding to estimates of their share in overall property wealth. The legend refers to the residential property price component.

Source: Borio and Drehmann (2009)

Graph 4
Credit booms and external credit: selected countries



The vertical lines indicate crisis episodes end-July 1997 for Thailand and end-Q2 2007 and end-Q3 2008 for the United States and the United Kingdom. For details on the construction of the various credit components, see Borio et al (2011).

[1] Estimate of credit to the private non-financial sector granted by banks from offices located outside the country. [2] Estimate of credit as in footnote (1) plus cross-border borrowing by banks located in the country. [3] Estimate as in footnote (2) minus credit to non-residents granted by banks located in the country.

Source: Borio et al (2011)

I. The FC: 7 key properties (ctd)

- **P5:** FC helps to measure potential (sustainable) output much better in real time
  - Current methods, partly based on inflation, can be very misleading (Graph 5)

- **P6**: Amplitude and length of the FC is regime-dependent (Graph 2): supported by
  - Financial liberalisation
    - Weakens financing constraints
  - MP frameworks focused on (near-term) inflation
    - Provide less resistance to build-up
  - Positive supply side developments (eg, globalisation of real economy)
    - ↑ financial boom; ↓ inflation

- **P7:** Busts of FCs are associated with balance-sheet recessions
  - Debt and capital stock overhangs are much larger
  - Damage to financial sector is much greater
  - Policy room for manoeuvre is much more limited: buffers depleted
  - Result in permanent output losses
  - Usher in slow and long recoveries
    - Japan in the early 1990s is closest equivalent
  - Why?
    - Legacy of previous boom and subsequent financial strains

Graph 5
US output gaps: ex-post and real-time estimates
In per cent of potential output

Linear estimates for the finance-neutral measure; the non-linear ones, which should better capture the forces at work, show an output gap that is considerably larger in the boom and smaller in the bust.
Source: Borio et al (2013).

II – How should prudential policy address the FC?

- FC requires that prudential policy has a systemic (MaP) orientation
  - Address the procyclicality of financial system head-on
    - Time dimension of MaP

- General principle in time dimension
  - Build up buffers during financial booms so as to draw on them during busts
    - Make financial system more resilient
    - Ideally constrain the financial boom

II – O1 & 2: Monitoring financial system risks

- **O1:** Beware of Macro Stress tests (MSTs) as early warning devices
  - None flashed red ahead of current crisis!
  - Given current technology, MSTs cannot meaningfully capture non-linearities
    - No matter how hard you shake the box, little falls out
    - Required "shocks" become unreasonably large
    - Essence of financial instability: normal-sized shocks cause the system to break down
  - "This-time-is-different" temptation is extraordinarily powerful
  - At worst, MSTs can lull policymakers into a false sense of security…
  - …but if properly designed, they can be effective for crisis management and resolution
- **O2:** Beware of network analysis
  - Bilateral linkages (counterparty exposures) matter far less than common exposures to third parties arising from FC
    - Hard to get large effects given size of interconnections
    - Financial crises are more like tsunamis than dominos
      - Indiscriminate behavioural responses during FD
  - Information on bilateral exposures is more useful for crisis management
    - But needs to be granular and very up-to-date

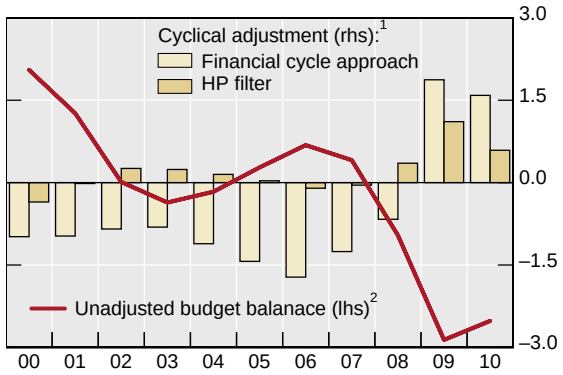
III. O3 & 4: Managing financial system risk (prevention)

- **O3:** Beware of overestimating the effectiveness of MaP
  - Technical : More effective in strengthening resilience, less in constraining booms
    - Effectiveness varies across tools…
    - … but all vulnerable to regulatory arbitrage
  - Political economy: Even harder to take away the punchbowl
    - Lags between build-up of risk and materialisation are very long
    - Prominent distributional effects

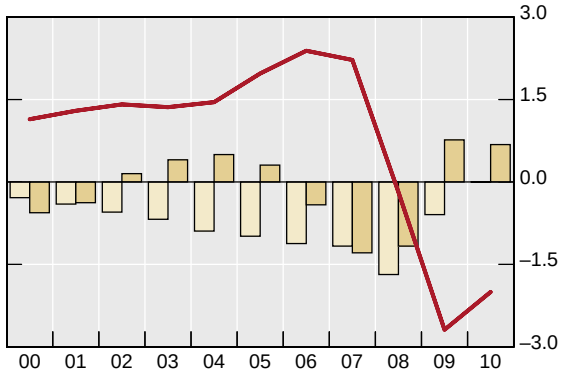
- **O4:** Beware of overburdening MaP: it needs active support from other policies
  - MP: lean against the build-up of financial imbalances even if near-term inflation remains under control ("lean option")
    - MP sets the universal price of leverage: can run but cannot hide…
  - FP: extra prudence, fully recognising hugely flattering effect of financial booms on fiscal accounts
    - Overestimation of potential output and growth (Graph 6)
    - Revenue-rich nature of financial booms (compositional effects)
    - Large contingent liabilities needed to address the bust
    - Open question: how to address sovereign risk in MaP?

Graph 6: Cyclically-adjusted budget balances: one-sided estimates

United States



Spain



Note: Linear estimates

Source: Borio et al (2013)

III. Are policies falling short?

- Pre-crisis, but also since then

- PP has adjusted most
  - Basel III (countercyclical capital buffer) and macroprudential (MaP) frameworks
  - But expectations unrealistic?
  - And enough done to repair banks' balance sheets (crisis resolution)?
- MP has adjusted less
  - Some shift towards "lean option", but quite timid
  - Temptation to rely exclusively on MaP measures
  - Limitations during busts fully appreciated?
- FP has adjusted least, if at all
  - Little recognition of flattering effect of booms and big risk for busts

- Bottom line
  - Policies are not sufficiently mutually supportive
  - Policy horizon are too short

Conclusion

- Need to bring back the FC into macroeconomics
  - Hamlet without the Prince?
    - Huge analytical challenges

- FC has major implications for MaP policy and beyond
  - Beware of MSTs as early warning devices
  - Beware of network analysis
  - Beware of limits of MaP
  - Beware of overburdening MaP

- Is enough being done to adjust frameworks?
  - MaP: calibration and activation of prudential instruments
  - MP: activation of "lean option"
  - FP: recognition of flattering effect of financial booms
    - "Business-as-usual" temptation is very strong

- And big open questions concerning how to address the financial bust
  - But this is another story…

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