Towards a financial stability-oriented monetary policy? Some evidence

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Theme and takeaways

- One Annual Report theme:
  - Should monetary policy (MP) take financial stability into account?
  - If so, what would such a policy look like?

- Takeaways
  - A financial stability-oriented MP (FSOMP) can yield net benefits
  - But it would need to respond systematically...
    - ...during both booms and busts (whole financial cycle (FC))
    - Need to avoid being too far away from financial equilibrium (FE)
    - Occasional leaning against the wind (LAW) could backfire
Structure of the remarks

- Outline basic analytical approaches
  - Similarities and differences

- Summarise main results of ongoing BIS research
  - Two studies

- Draw some broader implications
  - Caveats and conjectures
I – Basic analytical approaches

* Standard approach (Graph 1)
  - Standard interest rate/output/inflation model
  - Crisis module: add financial variables as leading indicators of crises
    - Credit growth is the chosen indicator
  - Adjust interest rate policy
  - Estimate cost/benefit

* A number of assumptions reduce the benefits of a FSOMP (Table)
  - Crises do not cause permanent output losses
  - In some cases, MP can “clean” at no cost
  - Leaning affects the crisis probability but not its cost
  - No possible benefits unless crises occur
  - Critically, risks do not grow over time
Costs and benefits of LAW: standard approach

Do benefits exceed costs?

↓ Crises tomorrow → ↑ output → ↓ output today

Standard model
policy rate/output/inflation

+ 

Crisis module
policy rate → financial variable → crisis → output

+ 

Evaluation
one-off deviation from standard rule → optimal policy

LAW = leaning against the wind
Costs and benefits of LAW: assumptions

<table>
<thead>
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LAW = leaning against the wind
I - Basic analytical approaches (cont)

- Assumption that risks do not grow over time has big implications
  - There is little or no cost to waiting
  - Encourages narrow view of FSOMP
    - Follow a traditional policy most of the time
    - Deviate only when large financial imbalances emerge
    - Obvious risk of doing too little too late

- BIS work relaxes these assumptions: common features (Table)
  - Risks build up over time during boom phase of FC
  - MP has larger impact on probability and cost of financial busts
    - Crises are not necessary for benefits to arise
## Costs and benefits of LAW: assumptions

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LAW = leaning against the wind
II – BIS research: first study

- Main features
  - Standard stylised economy...
  - ...but with recurrent FCs in the crisis module
    - Based on credit/property prices/credit-to-GDP ratio (Graph 2)
  - Estimated on US data

- Key results
  - Generally desirable to lean against financial booms
  - It pays to lean early: otherwise costs grow
    - Risks build over time if no action is taken...
    - ...in contrast to credit growth (variable in other studies) (Graph 2)
      - This returns quickly to the mean: no/little cost
    - Result would also hold with credit gap (Basel III): stock vs flow
  - The larger the imbalance, the greater the benefit
    - Because the bust is larger
Two different processes: the financial cycle and credit growth

(Graph 2)

Bank credit growth (lhs)$^1$  Financial cycle (rhs)$^2$

1 Bank credit to the private non-financial sector; year-on-year changes, in per cent.  2 Measured by frequency-based (bandpass) filters capturing medium-term cycles in real credit, credit-to-GDP ratio and real house prices.

Sources: BIS calculations; based on US data.
II – BIS research: second study

- Main feature: more granular estimated description of economy (US example)
- Three steps (Graph 3)
  1. Decompose FC into two key variables
     - debt service burden and leverage proxies
     - their deviations from long-run (gaps) drive economy and generate FC
       - Gaps measure deviations from FE
       - Help trace the Great Depression out of sample
         - Can generate permanent output losses
         - No separate crisis module
           - FC fully integrated in economy’s dynamics
  2. Use financial gaps to estimate the natural interest rate and output gap
     - Natural rate is intercept in reaction function (Taylor rule)...
       - ...but now needs to be consistent also with FE
  3. Carry out a counterfactual experiment (2003 onwards)
     - Based on augmented Taylor rule: includes FC proxy
Costs and benefits: an alternative approach

**Model: basic structure**
- Decompose the financial cycle
  - debt service burden
  - leverage

**Model: policy rule**
- Estimate financial cycle-adjusted inputs
  - output gap
  - natural interest rate

**Counterfactual experiment**
- New policy rule: output gap, inflation and financial cycle proxy
II – BIS research: second study (cont)

- Key results
  - Gaps are key in estimates of output gaps and natural interest rate
  - New reaction function leads to output gains at no inflation cost (Graph 4)
  - Important to lean early and respond systematically to the FC (Graph 5)
    - Allows faster normalisation of policy
  - Gains arise because the policy smooths the FC (Graph 6)
  - The earlier the counterfactual begins, the larger the gains
  - The natural interest rate (Graph 7)...
    - ...is higher than commonly estimated
    - ...falls by less when the central bank responds to the FC
  - Sizeable deviations of policy rate from natural rate may be needed
    - Larger than in standard Taylor rule
An illustrative experiment: higher output and similar inflation

(Graph 4)

Sources: M Juselius, C Borio, P Disyatat and M Drehmann, "Monetary policy, the financial cycle and ultra-low interest rates", BIS, mimeo, 2016; based on US data.
An illustrative experiment: output and interest rate paths

Sources: M Juselius, C Borio, P Disyatat and M Drehmann, "Monetary policy, the financial cycle and ultra-low interest rates", BIS, mimeo, 2016; based on US data.

(Graph 5)
An illustrative experiment: smoothing the financial cycle

Sources: M Juselius, C Borio, P Disyatat and M Drehmann, "Monetary policy, the financial cycle and ultra-low interest rates", BIS, mimeo, 2016; based on US data.
Comparing interest rates: standard and financial cycle-adjusted

Sources: M Juselius, C Borio, P Disyatat and M Drehmann, "Monetary policy, the financial cycle and ultra-low interest rates", BIS, mimeo, 2016; based on US data.
III – Broader policy considerations

○ Important to stress
  ▪ All such exercises face serious analytical/econometric challenges
  ▪ Many considerations excluded from the analysis
    - Use of alternative policies (eg prudential)
    - Richer characterisation of the economy and uncertainty
      • Eg no explicit treatment of the exchange rate
  ▪ Work is just one contribution to the bigger debate

○ But two conjectures are expected to survive further scrutiny
  ▪ There are likely to be potential gains from a more FSOMP
  ▪ Any such policy would need to respond systematically to FC
    - In both good and bad times
    - Need to avoid being too far away for too long from FE
    - Policy of “selective attention” would fall short of the mark