Comments on Haldane et al, Taylor & Woodford

by

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Structure of comments

- **Common theme:**
  - The financial cycle (FC), relationship with the business cycle (BC) and policy implications

- **Basic message**
  - FC should be at the core of our understanding of the macroeconomy
    - important policy implications
  - Need to rethink approach to modelling of the macroeconomy
    - Very useful steps by W and H, but much more needs to be done
  - Need to adjust policy accordingly
    - Would go further than W, H and T

- **Structure**
  I  - What is the FC? How is it related to the BC?
  II - What would it take to model it better?
  III - What are the policy implications?
    - Address balance of rules and discretion
I - The financial cycle

- FC = self-reinforcing behaviour of (private sector) credit and asset prices (especially real estate) that amplifies the BC
  - possibly leading to widespread financial distress (FD) and macroeconomic dislocations
  - “procyclicality” of the financial system

- Features
  - The FC has a lower frequency than the BC
    - 16-20 years approximately of late (but regime dependent)
  - If the size exceeds certain thresholds, it can lead to serious FD and macroeconomic costs
  - Fluctuations in private sector credit are at its core, but full picture needs to include asset prices and risk spreads
    - Self reinforcing interaction between risk perceptions/tolerance and financing constraints
The business and financial cycles interact but are not the same.
Where does the FC show up in the papers?

- Protagonist in Haldane’s (H) paper
  - Remind us of existence of a credit cycle of lower frequency than BC and that half of them ended in banking/currency crises
  - Missing?
    - Critical role of asset prices
    - Frequency depends on interaction of financial, monetary and real economy regimes

- Prominent in Woodford’s (W)
  - Bust caused financial crisis and triggered search for adjustments to New Keynesian models

- In the background in Taylor’s (T)
  - Unexpected challenges have led to significant departures from traditional Taylor Rule (TR) benchmarks by the Fed
    - But arguably not a significant shift to greater discretion
I - Is identification possible?

- Can outsize FCs be identified *ex ante*, spotting during booms and in *real time* the risk of future FD and macroeconomic dislocations?
  - ie can the build-up of “financial imbalances” (FIs) be identified?
  - BIS work suggests “yes”
- How? Exploiting the “**paradox of financial instability**”
- Paradox = financial system looks strongest precisely when it is most fragile
  - Market prices and balance sheets/income statements are artificially strong as aggregate risk builds up
  - Short-term volatilities, risk premia, credit growth, leverage at market prices, profits, cash flows, etc all point to low risk (Graphs)
  - What looks like *low* risk is a sign of *high* risk-taking!
  - Role of (conditional) mean reversion is key
  - Above variables behave more like *contemporaneous* than *leading* indicators of systemic FD
Graph II.2

Buoyant asset markets

Asset and commodity prices

- Equity prices
- House prices
- Commodity prices

Bond spreads

- High-yield corporate
- EMBI+
- US term premia

Implied volatilities

- Equities (lhs)
- Bonds (rhs)
- G7 exchange rates (rhs)

1 1995 = 100.  2 Sixteen OECD countries; weighted averages based on 2000 GDP and PPP exchange rates.  3 Goldman Sachs Commodity Index, in US dollar terms.  4 Quarterly averages.  5 In basis points.  6 As from December 1997, simple average of US and euro area high-yield indices, otherwise only US.  7 Estimated for 10-year zero coupon Treasuries.  8 Simple average of US and Germany.  9 Derived from the price of call option contracts on stock market indices.  10 Price volatility implied by the price of call options on 10-year government bond futures contracts.  11 JPMorgan benchmark index for the level of G7 currencies’ implied volatility.

Sources: Bloomberg; Datastream; Merrill Lynch; JPMorgan Chase; OECD; national data.

See Borio and Drehmann (2009a)
Graph II.4

Price of insurance against systemic distress

By financial segment

1 In per cent. Based on credit default swap (CDS) spreads for 10 commercial and eight investment banks headquartered in North America, 16 universal banks headquartered in Europe and 14 insurance companies headquartered in the United States and Europe. 2 Risk neutral expectation of credit losses that equal or exceed 15% of the corresponding segments’ combined liabilities in 2006 (per unit of exposure to these liabilities). Risk neutral expectations comprise expectations of actual losses and preferences.

Sources: Bankscope; Markit; BIS calculations.

See Borio and Drehmann (2009a)
I - How to identify financial imbalances?

- Indicator:
  - Joint positive deviations (“gaps”) from historical norms in credit-to-GDP ratio and asset prices (especially real estate) that exceed critical thresholds
    - Signal FD 2-4 years ahead, also out of sample
    - Have information about economic weakness and (less strongly) disinflation beyond own histories of variables
    - ie, help distinguish sustainable from unsustainable financial booms…
    - … although precise timing of FD is impossible to determine

- Illustrated with US data (Graph)
  - Different frequency of financial and business cycles
  - Predictive content of variables out of sample
Estimated gaps for the United States

Credit-to-GDP gap (percentage points)

Real property price gap (%)\(^1\)

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.

Sources: National data; BIS calculations.
II – What are the mechanisms at work?

- Many models capture key features of FCs (e.g., financial accelerator)
- Problem: at best act as “persistence-enhancing” devices
  - Do not capture macroeconomic instability
- At the heart of FCs are two types of limitation
  - Risk measurement
    - Measurement technologies are extremely “procyclical”
      - ie do not include meaningful conditional mean reversion
  - Incentives
    - Coordination failures, herding, etc
- All this exacerbates procyclicality
  - Self-reinforcing interaction between risk measurement/tolerance, perceptions of value/asset prices, financing constraints and the real economy
- Short horizons are key
  - In part result of contractual arrangements to address principal-agent problems
II – What do we need to model the FC?

- The boom does not just precede but **causes** the bust
  - endogenous financial and business cycles

- Endogenous time-varying risk perception/tolerance and defaults

- Expectations are not fully “rational”

- A true monetary economy
  - The financial system does not just allocate “savings” but **generates** purchasing power
    - feeding back into output and expenditures
    - Inside money creation is essential

- Ideally a theory of contracts that endogenises short horizons
II – Contributions of papers: good but not enough

- Haldane
  - Simple and intuitive modelling of coordination failures in the boom; short horizons play a role
  - Some issues:
    - Fully “rational” expectations
    - Implications of formal model: really so?
      - Calibration of the credit cycle and endogenous fundamentals
      - Correlation in performance during boom and bust

- Woodford:
  - Intentional: minimal departure from the NK framework to incorporate financial intermediation
  - Some issues:
    - Fully understandable, but not radical enough
      - No cross-sectional and inter-temporal coordination failures
      - Limited role for risk and default
      - Not really a monetary economy
  - Narrows policy implications
    - Eg, how to deal with the bust (eg, capital and debt overhangs)
III – Policy implications of the FC

- Addressing the FC requires mutually reinforcing adjustments to prudential frameworks and monetary policy (MP)

- Prudential Policy: shift focus from microprudential to macroprudential (MaP) orientation
  - from individual institutions to financial system as a whole
    - addressing “procyclicality” is key

- MP: permit a tightening even if near-term inflation remains under control to lean against the build-up of FIs (“response option”)
  - previous indicators help to assess more systematically risks beyond traditional policy horizons (form of “insurance”)

- Given focus of papers, discuss only MP
III - What do the papers say?

- Haldane: FC has a lower frequency than BC, should use only MaP policy
  - Disagree: MaP not enough
    - Do not know effectiveness of MaP policy: evidence so far mixed
    - MP is ultimate anchor for credit creation: key role
      - Operates precisely by affecting asset prices, yields and financial conditions
      - Evidence of influence on risk-taking
      - Harder to arbitrage away: sets universal price of leverage

- Woodford:
  - Very helpful: add term for “marginal crisis risk” to targeting rule (inflation and output)
    - Way of formalising the response option
    - But specifics of model are less convincing
      - framework underestimates importance of this policy

- Taylor:
  - Would go further than his prescription
    - Taylor Rule is not a sufficient guide
      - does not take explicit account of FIs
III – Balancing rules and discretion

- As T, have a preference for rules
  - Policy to be “as rule-based as possible, but no more”
- But “response option” is not consistent with a shift to rules
- No mandate for financial stability is necessary, but policy is a shift away from deceptive simplicity of inflation targeting (IT)
  - The shift to IT did not really represent a shift towards rules, as T (and possibly W) appear to suggest
    - Flavour of “if you cannot will the means (eg, monetary targets, exchange rates, etc), will the ends”
    - Lots of discretion over how to deliver the target and to tolerate deviations
- How to limit discretion?
  - Publish ranges for the leading indictors of FD
  - “Comply or explain” principle
References