BANK FOR INTERNATIONAL SETTLEMENTS

"Risk-Shifting, Fuzzy Capital Requirements and the Build Up of Financial Fragility"

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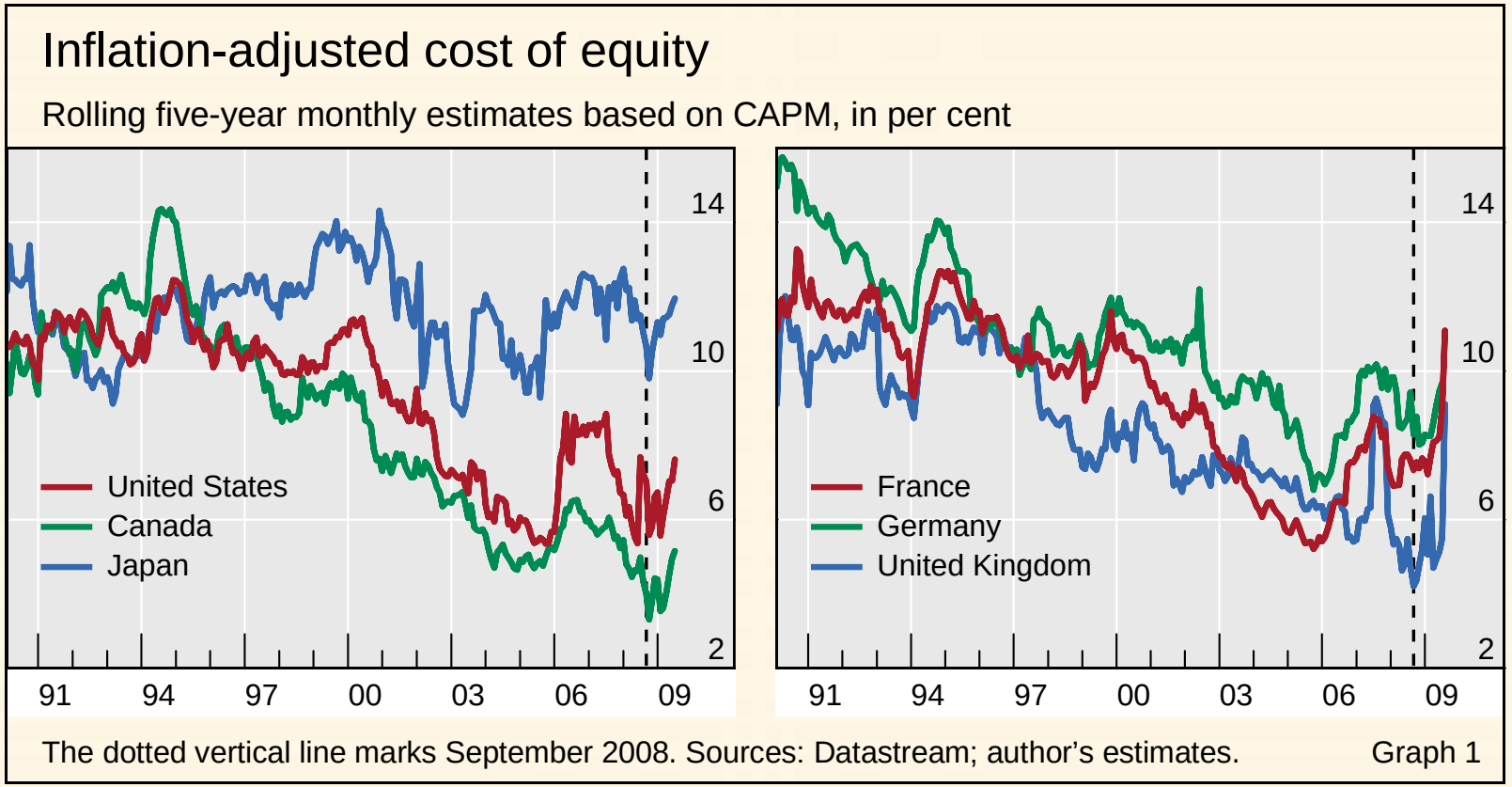
3 Questions

1. Is the topic interesting?
2. Is the argument convincing?
3. Can we use this model to analyse policy?

Is the topic interesting?

- Why didn’t the market price leverage and systemic risk?

Is the topic interesting?



Source: Michael King in BIS Quarterly Review, September 2009

Is the topic interesting?

- Why didn't the market price leverage and systemic risk?

  Answer: Investors appeared to underestimate regulatory arbitrage and incentives to take risks
- Was this (in part) caused by loose monetary policy?

  Answer: Loose monetary policy may amplify underestimation of risk and amplify asset price bubbles

Is the topic interesting?

Yes!

The key mechanism

- Limited liability leads intermediaries to take excess risk
- Regulatory capital requirement forces intermediaries to put own funds at risk

  ➔ reduces incentives for risk-taking
- Households infer the risk of intermediaries from asset prices and regulatory capital requirements
- Unobserved regulatory arbitrage biases these signals
- Bias depends on level of interest rates

The basic model

- Three assets
  - Safe asset in elastic supply
  - Risky asset in inelastic supply
  - Storage technology (eg CB deposit facility) in perfectly elastic supply
- Households cannot invest in these assets directly but have to do so through a financial intermediary

The basic model (contd.)

- Risk shifting due to limited liability (Allen & Gale 2000):
  - Intermediary defaults in bad state and invests too much in risky asset

  ➔ price of risky asset higher than in case when households can invest directly
- capital requirements mitigate agency problem

The basic model (contd.)

- Two unobservables:
  - Fundamental value of risky asset
  - Supply of riskless asset
  - ➔ Signal extraction problem: households have to infer fundamental values from asset prices
- Two asset prices
  - Risky asset
  - Riskless asset
  - ➔ Perfectly revealing REE

Fuzzy capital requirements

- Assume households overestimate capital requirements
  - eg because off-balance sheet assets are not really off the balance sheet
  - ➔ Asset prices still determined by demand from intermediaries
  - ➔ But bias in household's signal extraction problem: households will overestimate fundamental value of risky asset
  - ➔ Intermediaries hold more of the risky asset and drive up its price

Monetary policy

- Works through rate paid on the storage facility
- Low interest rates increase degree of overestimation of capital requirement

  ➔ risk-taking channel of monetary policy
- Intuition?

Question on the model

- Do households take into account uncertainty about capital requirement?

Is the argument convincing?

- Why were investors fooled?
- Why were authorities fooled?

Why were investors fooled?

- Accounting literature: investors are usually not fooled by accounting tricks eg in case of stock options
- Why were they fooled by securitisation?
  - Basel I loopholes were known
- But who knew in Spring 2007 what an SIV was?

Is the argument convincing?

- Why were investors fooled?

  yes
- Why were authorities?

Why were authorities fooled?

- A weird point in the model: there are capital requirements but regulators cannot observe them.
- In practice: Regulators did know something:
  - Basel II addressed some loopholes of securitisation
- But they didn't know enough: who knew in Spring 2007 what an SIV was?

Is the argument convincing?

- Why were investors fooled?

  yes
- Why were authorities fooled?

  yes

Can we use this model to analyse policy?

- Model taken at face value suggest CBs to keep policy rates high to limit risk-taking
- No discussion of any tradeoffs
- Not amenable to quantification

Can we use this model to analyse policy?

No

Conclusion

- Very interesting topic
- Basic premises of the analysis are convincing
- But argument on risk-taking channel quite mechanic. More intuition is required
- Next steps
  1. embed risk-taking channel in a macroeconomic model to analyse policy trade-offs
  2. quantify risk-taking effects