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"A DSGE model to assess the post crisis regulation of universal banks"
by de Bandt-Chahad

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** The usual disclaimer applies*

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The paper

- The model: a large scale DSGE model
  - a real and a financial sector
  - a distinction between retail and wholesale banking
  - a maturity mismatch
  - a distinction between SMEs and large corporate firms

- The purpose
  - to study the impact of the introduction of the liquidity ratio and of the capital ratio, jointly and separately

- The results
  - «liquidity regulation has a more persistent effect than solvency regulation»
  - «no potential positive spill-over effects between the implementation of the new capitalization and the liquidity coverage ratio»

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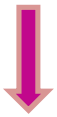
DSGE models

- Complex, non-linear systems of equations initially developed in the Real Business Cycle literature to explain aggregate economic phenomena

- Study the interactions of multiple economic agents that optimise their utility or profit objectives over time, subject to budget constraints and random shocks (microeconomic foundations)

- Assume the existence of a stable equilibrium; risks are purely exogenous shocks that drive the economy temporarily away from the steady state to which it dynamically converges



can be used to analyse and understand the mechanisms through which exogenous shocks are transmitted to the real economy , as the real economy adjusts towards a new equilibrium

BCBS WP no. 21, 2012, "Models and tools for macroprudential analysis"

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DSGE models and FI

- First group of models, banks are absent and all lending is direct
  - Financial intermediation
  - Insolvency and default
  - Liquidity/Maturity transformation
  - Regulation of intermediaries and markets
  - Booms and bust in asset markets

  main missing elements

- Second group of models, banks exist, but their balance sheets and net worth play no material role

- Third group of models, bank balance sheets and net worth do matter, either through an incentive constraint under moral hazard or through a regulatory constraint
  - ✓ Adrian and Boyarchenko, 2013
  - ✓ Covas and Driscoll, 2014
  - ✓ De Bandt and Chahad, 2015

  capital and liquidity requirement

BCBS WP no.21,, 2012, "Models and tools for macroprudential analysis"
Jakab and Kumhof, «Banks are not intermediaries of loanable funds – and why this matters»

The paper: in context

- Adrian and Boyarchenko, 2013
  - a DSGE in which liquidity and capital regulations interact with the supply of risk-free assets
  - «*liquidity requirements are preferable to capital requirements, as tightening liquidity requirements lowers the likelihood of systemic risk without impairing consumption growth*»
  - welfare improving
  - «*intermediate levels of risk-free asset supply achieve higher welfare*»
- Covas and Driscoll, 2014
  - «*introducing a minimum liquidity requirement … on top of existing capital requirement … would lead to a steady-state decline in output of about 0.3 percent*»
  - «*a reduction in liquidity requirement following a wealth shock to households dampens the response to aggregate output considerably more than an easing of capital requirement*»
  - «*the macroeconomic impact of introducing a liquidity requirement is mitigated as the availability of safe assets increases*»
  - No welfare analysis
- De Nicolò and Lucchetta, 2014
  - «*liquidity requirements unambiguosly reduce lending, efficiency and welfare*»
  - partial-equilibrium models

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The paper: key features

- Most of the assets have more than one period maturity (maturity transformation)
- Households hold deposits and sovereign bonds
- SMEs can only borrow from the banking sector (loans)
- Large firms issue bonds as alternative source of financing
- Retail branches supply loans to SMEs and large firms
- Investment branches hold corporate bonds and sovereign bonds (different weights in the liquidity requirement)

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The paper: results

- When implemented alone, an increase of the liquidity ratio by +25% in 4 years …
  - … leads to steady-state (after 40 quarters) decline in output of -0.03 percent

- When implemented alone, an increase of the capital ratio by +1% in 16 quarters …
  - … leads to a steady-state decline in output of (-0.02?) percent

- A simultaneous introduction of both requirements (but this time the liquidity ratio moves to 100% ?)
  - … leads to a steady-state decline in output of -0.03 percent, of which -0.1 is attributable to the liquidity ratio and -0.2 to the capital ratio

… results not easy to gather… paper in progress

The paper: transmission channels

To meet the liquidity constraints

- Banks increase their liabilities (retail deposits)
- Buy liquid assets (sovereign and corporate)
- Size of the balance sheet increases

To meet the capital constraint

- Banks reduce loans (deleveraging)

Loans are reduced more from the solvency than the liquidity constraint and more for SMEs than for corporates (alternative source of financing)

- ✓ Impact on GDP is higher for capital ratio
- ✓ Two separate transmission channels, not surprisingly the impact of each shock sums up

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Comments

- ✓ Universal banking model
  - ➢ Is really a universal bank or rather an investment bank and a retail bank with separate balance sheets?
  - ➢ Is there a pooling of resources, diversification of risk?
  - ➢ Would it make any difference?

- ✓ Retained earnings channel
  - ➢ what if you allow retained earnings to be used to increase bond holdings instead of investing them in lending? (De Nicolò and Lucchetta)

- ✓ Interbank lending channel
  - ➢ empirical results for UK and the EBA reports based on QIS find that banks substitute interbank lending with bond holdings
  - ➢ No reduction of loans to the real economy
  - ➢ How this would fit in your model?

Summing up/ possible extensions

- ✓ An ambitious paper
  - ➢ various sources of financial frictions, various assets with different maturities, different types of banks
  - ➢ promising avenue of research
- ✓ Needs a welfare analysis
  - ➢ cost of regulation must be compared with benefits in terms of reduced systemic risk
  - ➢ this is what DSGE models are for
- ✓ Compare with Jakab and Kumhof , 2015
  - ➢ «Banks are not intermediaries of loanable funds – and why this matters»
  - ➢ banks provide financing through money creation
  - ➢ «the effect of macroprudential policies using these models is likely to yield results that differ significantly from the existing literature»