Discussion of “Corporate Credit Provision” By Nina Boyarchenko and Philippe Mueller.

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Research question

- Flow of funds (FoF) data on b/s of the domestic private sector in developed economies (9 + other Europe).

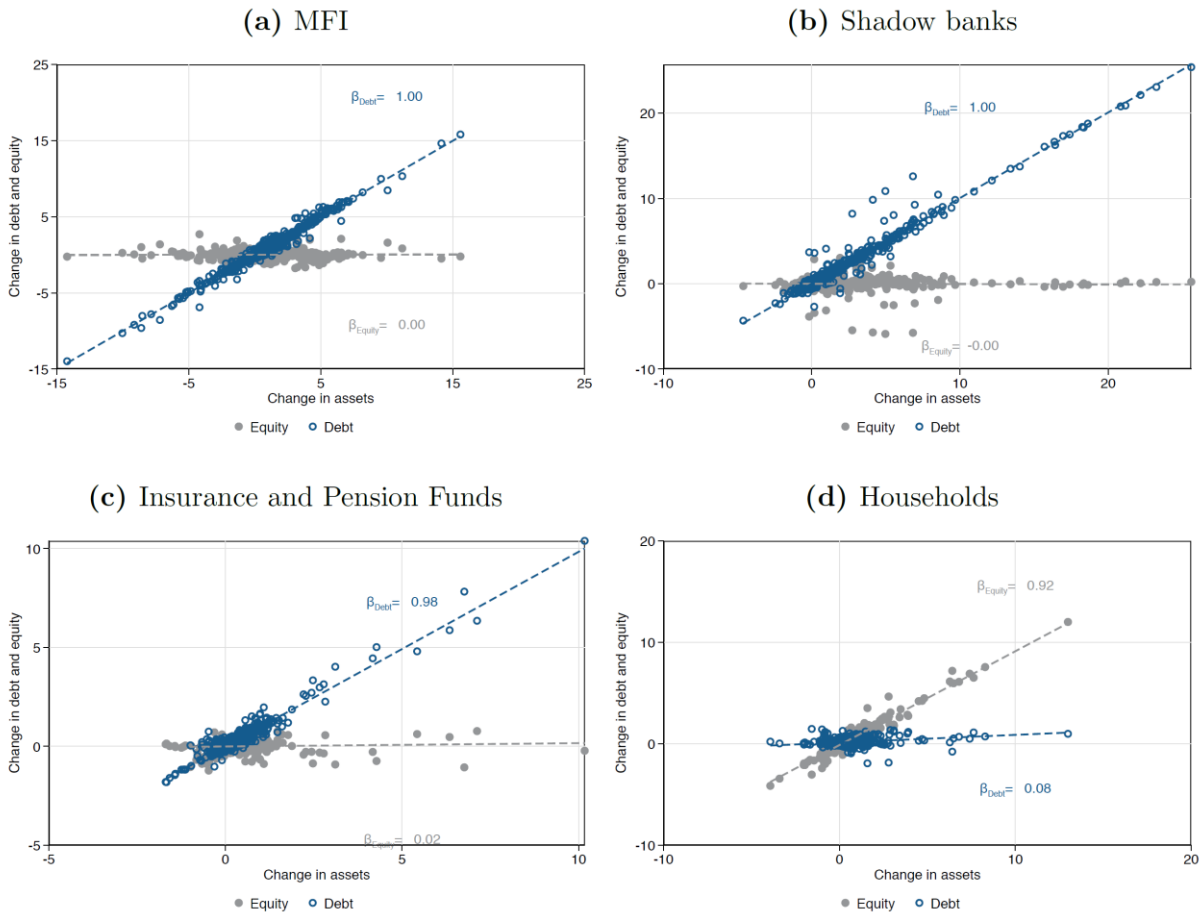
- Interested in the relationship between financial sector balance sheet growth and (non-financial corporate) credit provision:

$$\frac{\text{Credit}_{c,t}}{C_{c,t}} = \alpha_c + \beta_c \text{Asset growth}_{c,t} + \epsilon_{c,t}$$

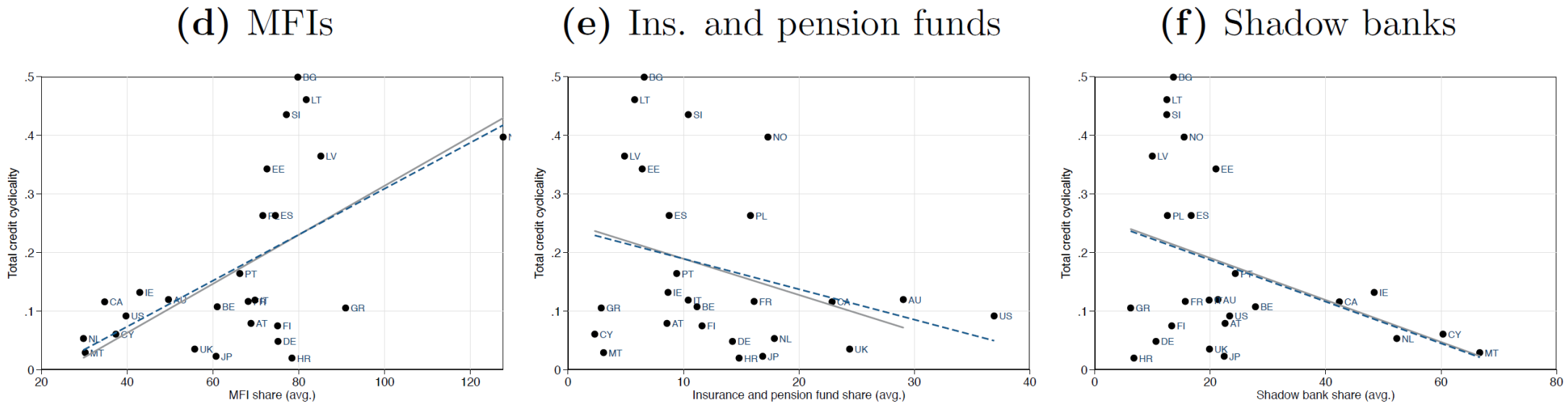
- And what determines the cyclicality of different types of credit (β_c)?

1. Cross-country heterogeneity within sectors of the financial system.
2. Heterogeneity in the composition of the financial system.

Cross-country heterogeneity financial sector B/S is small



So it is the composition that matters…



1) Why not use flows?

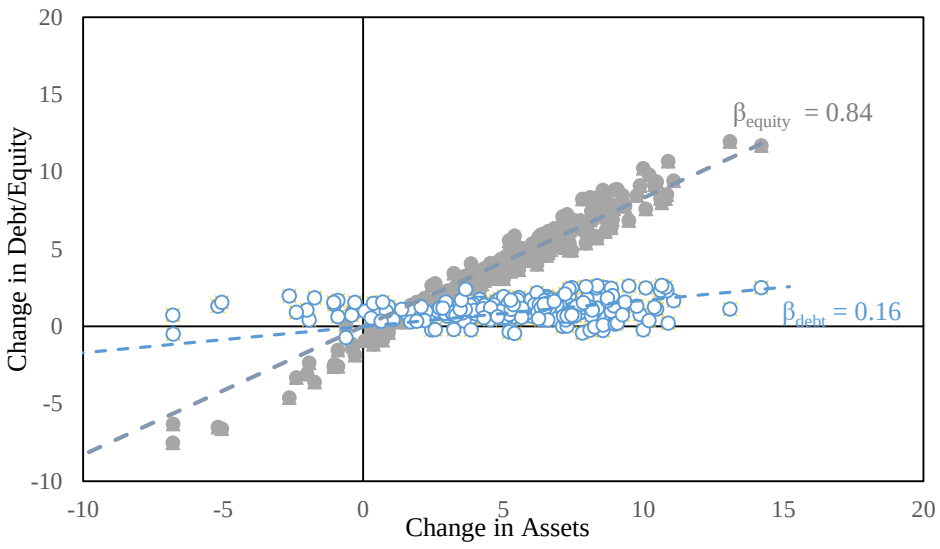
- FoF data contains information on the transactions in financial assets that each sector engages in.

- The paper uses the terms like issuance, but it looks exclusively at changes in balance sheets which are at market value.

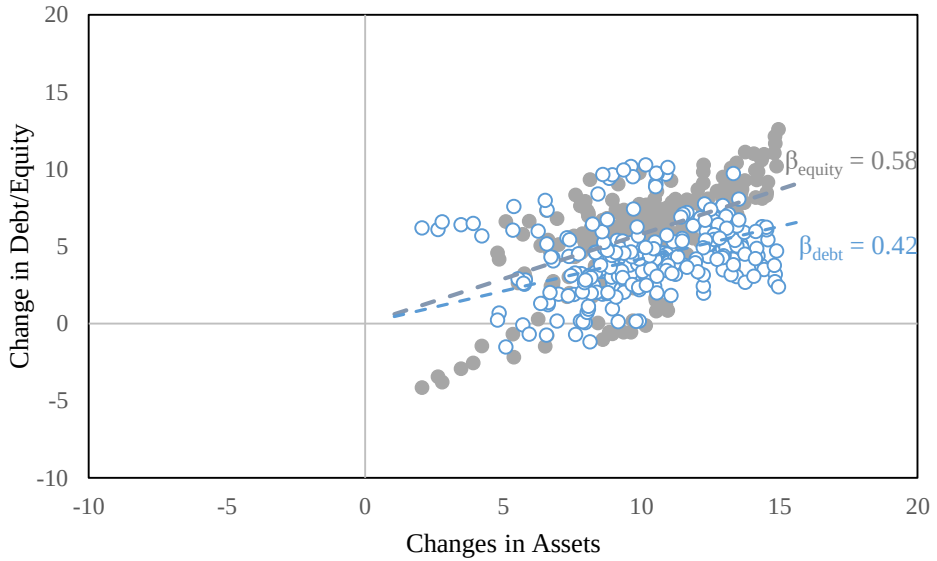
- You can easily disentangle issuance from valuation effects. So why not do so?

This may make a difference -- US households…

Balance sheet changes

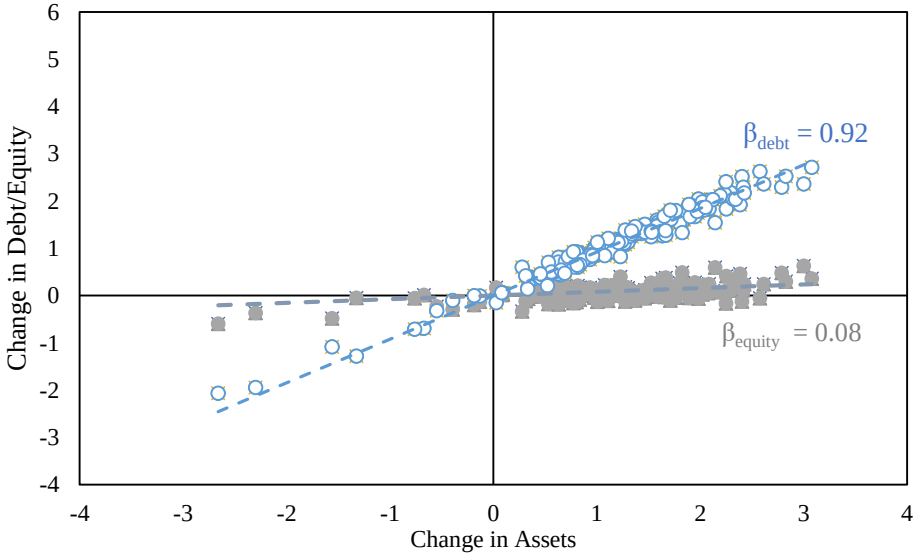


Transactions

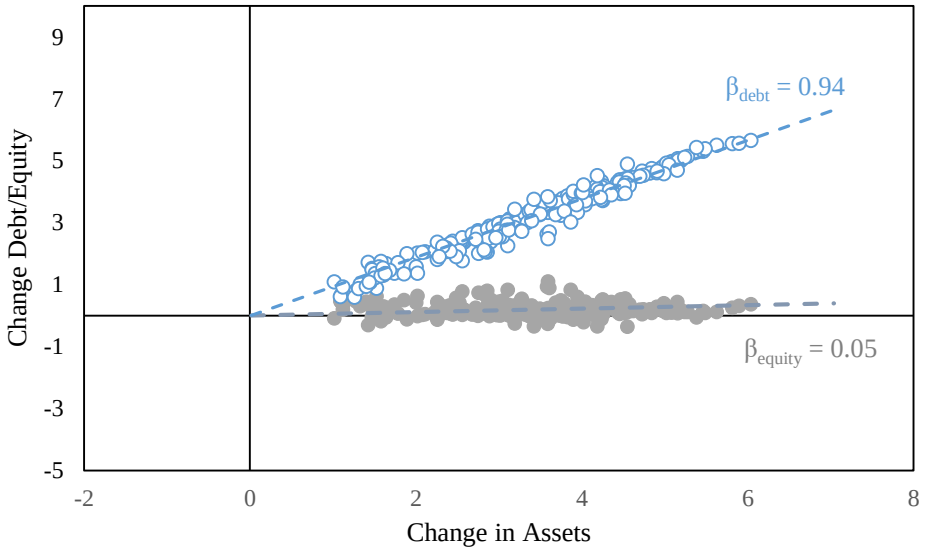


…Or it may not -- US I&P

Balance sheet changes



Transactions



- But the extent to which it matters will depend on the marketability of the sector's assets/liabilities…

Difference between the two is interesting

Consider a specification like:

$$\frac{\text{Credit}_{c,t}}{C_{c,t}} = \alpha_c + \beta_c^1 \text{Asset transaction}_{c,t} + \beta_c^2 \text{Asset price changes}_{c,t} + \epsilon_{c,t}$$

- For US NFC loans, β_c^1 is 1 and β_c^2 is -0.09, compared to 0.1 for total asset growth.

Starting point for this literature was theoretical macro papers on financial frictions:

- Financial accelerator (Bernanke et al (1996), Kiyotaki and Moore (1997)): cyclicality of asset prices.
- Leverage cycles (Geanakoplos (2010)): cyclicality of collateral requirements.

Challenging to disentangle shocks to the two with macro time series (Liu et al (2016)).

2) What do you mean by cyclicality?

Paper uses two specifications

$$Y_{c,t} = \alpha_c + \beta_c \Delta GDP_{c,t}/GDP_{c,t-4} + \epsilon_{c,t}$$

$$Y_{c,t} = \alpha_c + \beta_c \text{Asset growth}_{c,t} + \epsilon_{c,t}$$

Basically asks what is the sensitivity of $Y_{c,t}$ to the average composition of macro shocks that drive each RHS variable.

Two issues:

1) R^2 of a regression of $\text{Asset growth}_{c,t}$ on $\Delta GDP_{c,t}/GDP_{c,t}$ is zero. These aren't picking up the same cycle and the xcountry difference is not homogeneous.

2) Contribution of different shocks to cycle differs across countries. Would be good to confirm that results holds for consistent shock (monetary policy, TFP etc.)

3) Why omit the Rest of the World?

- Links are drawn with literature on how cross border lending can transmit smooth shocks (e.g. Ceterolli and Goldberg (2011, 2012))
- Openness of the financial system may also be a determinant of cyclicality of
- But the rest of the world sector is not explored despite it being in the data.
- Would be interesting just to know whether RoW lending composition (using whom-to-whom) matches the domestic financial sector or whether it is somehow global.

4) Speculative suggestion: try using a hierarchical model

- Goal is to understand the determinants of β_c.
- Paper shows composition seems to matter but (i) no formal test, (ii) it is not the only thing that matters; (ii) doesn't explain the composition.

Suggestion, specify a prior (see e.g. Gelman and Hill (2007)):

$$\beta_c \sim N(\gamma X_c, \lambda \Sigma_c)$$

Estimated hyperparameters γ and λ govern the importance of cross country determinants (X_c) and how similar countries are.

Other variables beyond composition can be included in X_c.

Other Comments: interpretation.

- Is it average composition or the cyclicality of the sectoral composition that is relevant?
- Is it really fair to say that there is little cross country heterogeneity in the way different parts of the financial system manage their balance sheets? Australian MFIs fund $1 of asset growth with $0.2 of equity compared to effectively $0 for the UK.
- If institutions in different countries behave in the same way, why is there cross country heterogeneity in the sector share coefficients?
- Should insurance and pension funds really be bundled together (even if the UK data does)? And is the share between insurers and pension funds relevant? How about public vs private funds?

Other Comments: data construction

- All central banks in your sample publish detailed balance sheet data. Even if a country's FoF don't strip out the monetary authority, an approximation may be possible.

- Convert nominal variables to constant prices (GDP deflator or CPI) to prevent differences in inflation volatility driving the results.

- You could elaborate more on the sample/data construction in the appendix:
  - Are the numbers you are using consolidated or unconsolidated?
  - What is the exact definition of each of the instruments you use?
  - Does equity include both the unlisted equity in private firms and the marketable equity of public firms?
  - How are things like trade payables and derivatives treated?
  - Would be nice to know what "other Europe" is.

- Main text should be more open on the approximations used in the whom-to-whom flows and their potential inaccuracy.