

Introduction

How does the **share of non-performing loans in total loans (sNPL)** affect the real economy, and what drives the sNPL variation across countries?

- Parsimonious model with frictions in capital reallocation (e.g.: Eisfeldt and Rampini 2006, and Lanteri 2018) to capture counter-cyclical response of the sNPL and their negative relation to real capital returns.
- Both frictions in used capital markets and forbearance incentives drive the sNPL
- Estimate the extent to which the two identified drivers of the sNPL vary and contribute to sNPL variation over the business cycle.

Data and methods

Data from the World Bank and the IMF on the sNPL are merged with data from CompNet, WRDS, KLEMS, and Eurostat and are used to measure the behaviour of the sNPL over the business cycle.

Then a **structural model capturing the business cycle properties of sNPL** is presented. Search frictions in used capital markets explain **NPLs arising endogenously in bank-firm matches**.

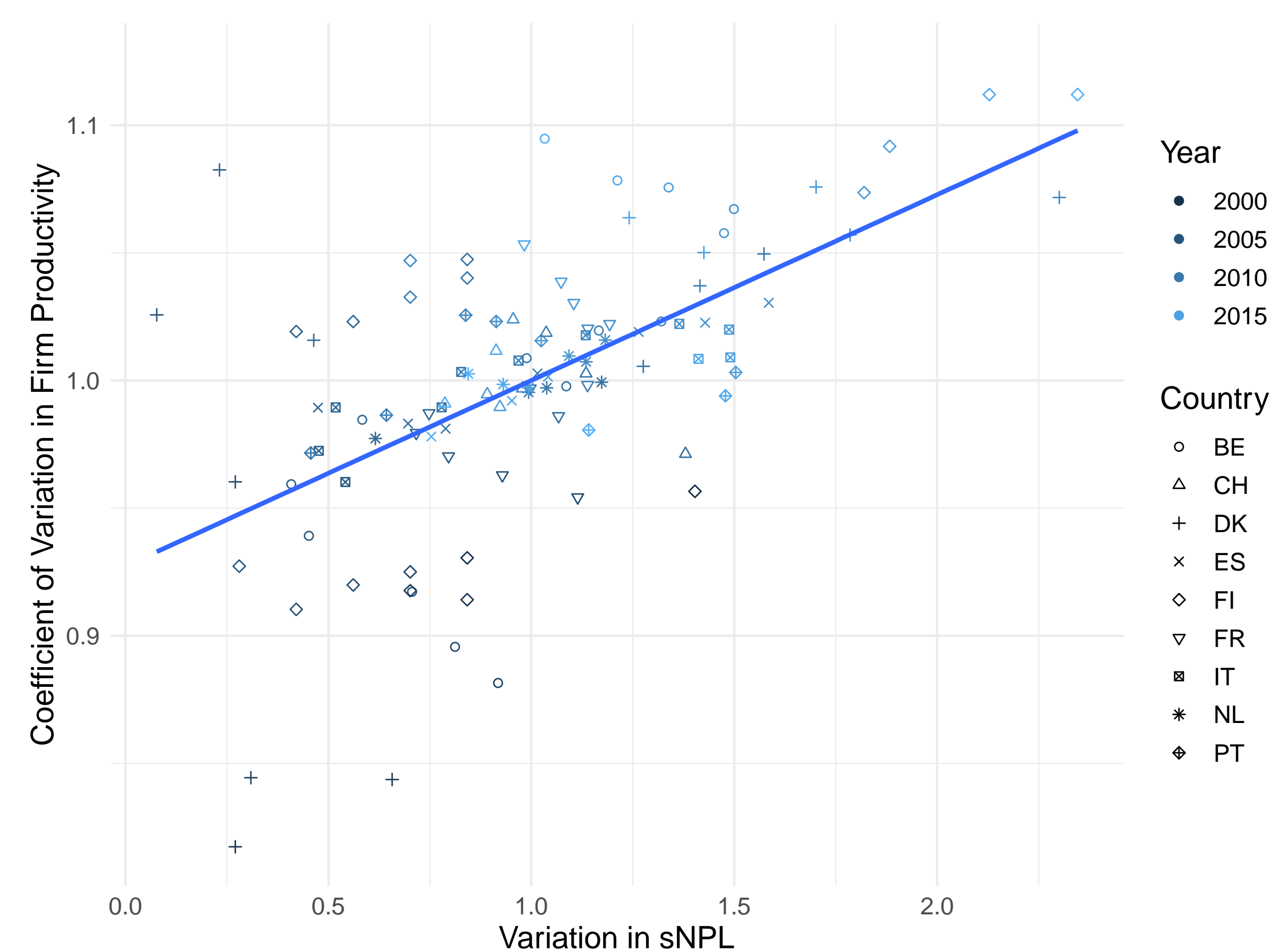
Impulse response function matching of the data and model across European economies is used to identify the effect aggregate shocks have on the match efficiency and forbearance incentives using the model prediction that forbearance frictions will drive up capital prices while matching frictions reduce them.

Acknowledgements

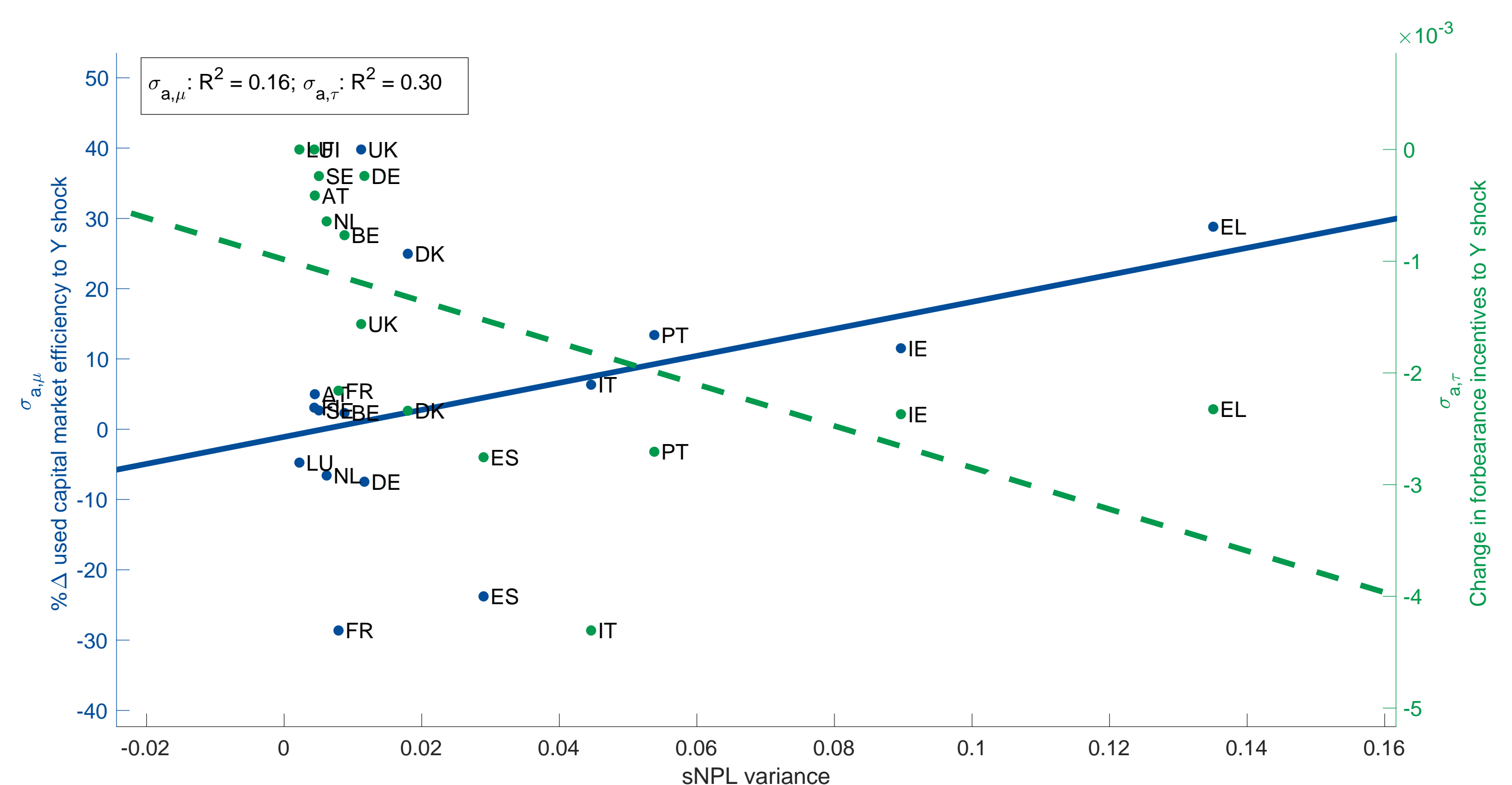
I would like to thank CompNet for granting access to the 7th Vintage CompNet dataset.

Results

The sNPL is counter-cyclical and causes reduced investment and reduced real capital returns. A **higher sNPL in a country can explain higher levels of capital misallocation** across economies.



While **both higher forbearance incentives and higher frictions in used capital markets drive the sNPL**, changes in the efficiency of used capital markets are more important in countries with high sNPL variance.



Conclusions

The paper shows that the **sNPL** can be viewed as the **mirror image of real capital misallocation**.

A model with search frictions can parsimoniously capture the dynamics of sNPL and the capital reallocation problem and can be used to predict that a **change in capital market frictions and forbearance incentives contribute to sNPL** changes in recessions, with **inefficient capital reallocation as a more potent driver of variation across countries**.

References

- Eisfeldt, Andrea L., and Adriano A. Rampini. "Capital reallocation and liquidity." *Journal of monetary Economics* 53, no. 3 (2006): 369-399.
- Lanteri, Andrea. "The market for used capital: Endogenous irreversibility and reallocation over the business cycle." *American Economic Review* 108, no. 9 (2018): 2383-2419.