



Financial shocks and firms' responses

Discussion by Cédric Tille
Geneva Graduate Institute and CEPR

Research workshop, BCC 14th annual conference
Geneva, September 10, 2026

Financial condition and real economy

- ❑ How are firms affected by – and position against – financial shocks?
- ❑ Management of foreign exchange exposure.
 - *Do industries naturally hedge? From dollarization of deposits to loans at the sectoral level in Peru* - Marcelino Cueto, Jorge Pozo, Central Reserve Bank of Peru.
- ❑ Optimal extent of financial regulation for economic activity.
 - *Estimating the optimal capital adequacy level for Ukrainian banking sector* - Yuliia Bazhenova, National Bank of Ukraine.
- ❑ Impact of credit shocks on firms' credit and exports.
 - *Bank credit supply shocks, lending relationships, and real resilience: Evidence from exporting firms in Peru* - Renzo Pardo, Central Reserve Bank of Peru.



Hedging currency exposure in Peru

- ❑ Policy goal of reducing dollarization of deposits and loans.
 - Successful decrease until 2013, but stability since then.
- ❑ Dollar debt may not be such a concern if firms have dollar deposits or earnings.
- ❑ Rely on bank-level data of loans and deposits by sectors of firms.
 - Dollarization is very heterogenous across sectors.
- ❑ Panel sector-bank regression of loan dollarization.
 - Strong inertia.
 - Positive relation with deposit dollarization (hedging), mostly for exporters.
- ❑ Hedging behavior stronger in tradable and export oriented sectors.

Magnitude and frequency

- ❑ Effect of deposit dollarization appears quite small.
 - Coefficient of 0.07-0.08 on deposits (table 4).
 - An extra 10 ppt of deposit dollarization → extra 0.7 – 0.8 ppt of loan dollarization.
 - Fairly robust across various fixed-effects.
- ❑ Exchange rate movements mechanically affect the share of dollar.
 - A 10 % appreciation moves of from 20 to 22% for instance.
 - Assess in first-differences, filtering out this valuation effect.
- ❑ Monthly data, but I expect borrowing decisions to be done more gradually.
 - Robustness at quarterly, or even annual, frequency.

Sectoral heterogeneity and granularity

- ❑ Sector by sector regression show sizable heterogeneity (table 5).
 - Highest coefficient (0.09) are still small.
- ❑ Develop more the links with characteristics, such as export orientation.
 - Add a «deposit dollarization * export orientation» interaction in the overall panel.
- ❑ Provide some discussion on the following.
 - Do we expect sectoral level to be enough? How about firm heterogeneity within sectors?
 - Do we have information on firms (sector) leverage? Higher FX exposure is less of an issue if firms are well capitalized.
 - Do we have information if firms have dollar deposits in one bank and dollar loans from another bank? Bank-sector interaction may underestimate the hedge.

Optimal bank regulation in Ukraine

- ❑ Benefits and costs of higher equity requirements on bank.
 - Lower likelihood of crises vs. higher cost of credit.
- ❑ Calibrate the impacts for Ukraine.
 - Benefit: effect on likelihood of crises from a multi-country panel * GDP cost of crises.
 - Cost: impact of equity requirements on credit and GDP in Ukraine from SVAR.
- ❑ Higher requirements make crises less likely.
 - Essentially zero risk from 20% equity ratio onwards.
- ❑ Higher requirements raise capital cost and reduce credit and GDP.
 - SVAR with various measures: 1 ppt. equity ratio reduces GDP by 0.31% at 5 years.
- ❑ Benefit – cost: optimal equity ratio of 9-15%.

Estimation of cost

- ❑ SVAR is on Ukraine data. Do estimates from a panel, or the literature, differ?
- ❑ Magnitude: what is average GDP growth, to put 0.31% in context?
- ❑ Can the cost be non-linear?
 - Banks only pass a large equity ratio into higher interest rates.
- ❑ SVAR shows delayed effect on credit and GDP...
- ❑ ...but immediate effect on equity ratio, with subsequent convergence.
 - I expect the opposite: bank gradually adjust the balance sheet to the new rule.

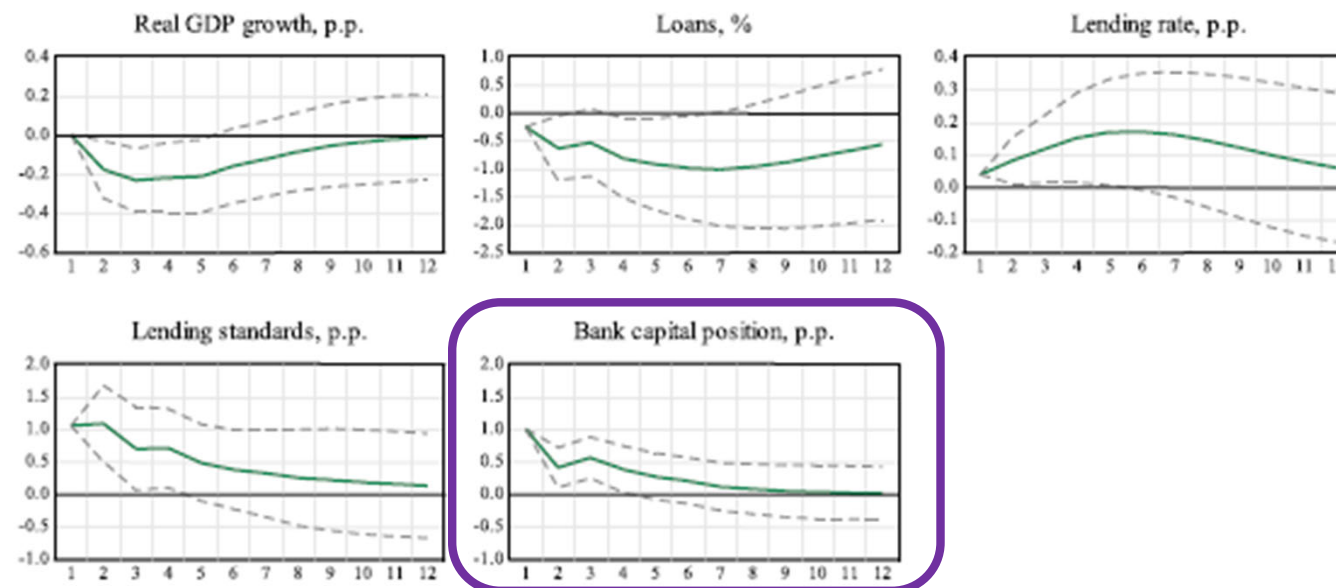


Figure B2. Impulse response functions to one percentage point bank capital position increase derived

Net benefit

- ❑ Benefit concentrated at low equity ratios, cost is linear.
- ❑ Expect non-linear pattern.
 - Increasing net benefit, a peak, and then decrease.
- ❑ Instead, increase and a plateau at 20% (figure 4).
 - So 35% ratio is no worse than 20%? I expect a much higher cost.
- ❑ Optimal level of «9-15%». But the highest net gain is from 20% on.

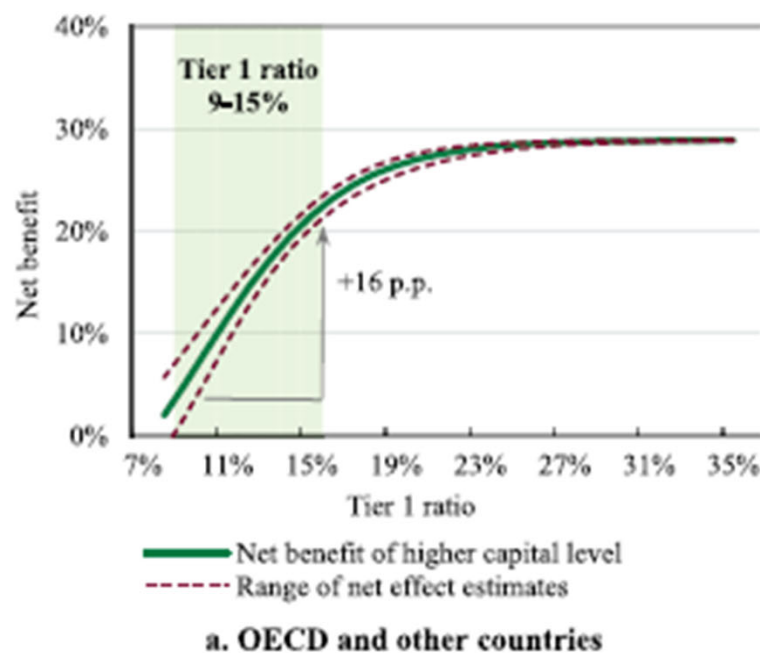
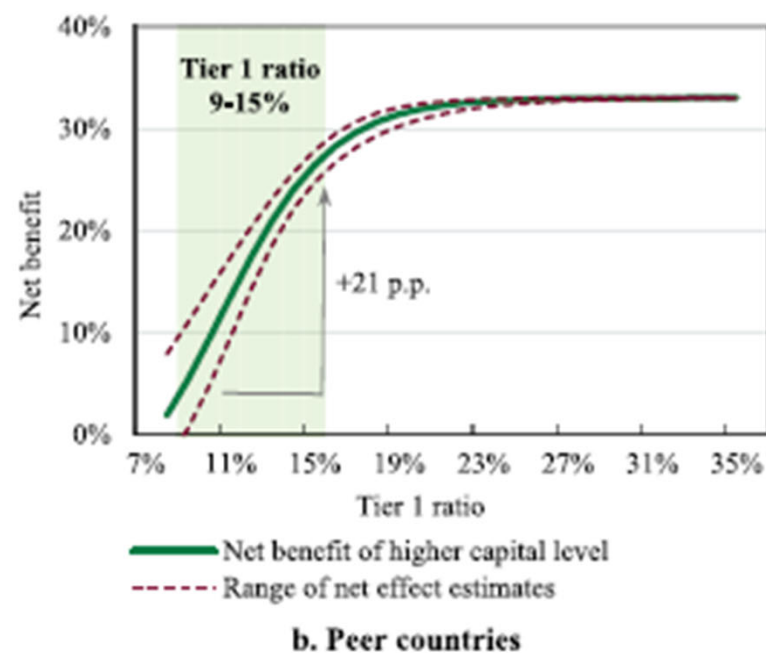
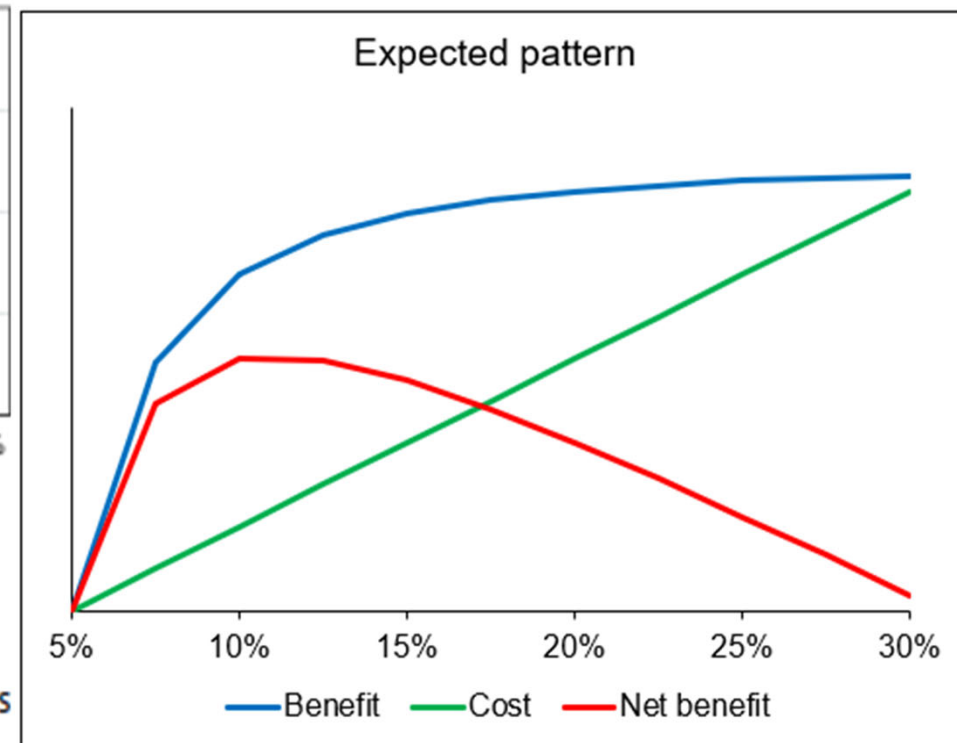


Figure 4. Net benefit depending on the bank capital level, % GDP. Notes: The range of net effect es

Credit supply shocks and relationships in Peru

- ❑ How do credit shocks from banks affect lending to firms, and their activity?
- ❑ Matched granular credit registry data with export data.
- ❑ Identify a credit supply shocks by looking at a firm's borrowing from different banks.
 - If a bank lends less to the same firm: credit supply.
- ❑ Credit contraction reduces credit volume and exports.
 - Less so if a firm borrows from fewer banks (relationship lending)...
 - ...unless the firm is small.
- ❑ Stylized model to account for the empirical result.

Identification of shock

- ❑ Creative approach: compare different lenders to the same firm.
- ❑ Isn't there some tension with the heterogeneity result?
 - 2 banks, B1 and B2, 2 firms, FA and FB.
 - Each bank initially lends the same amount to each firm.
 - Each bank cuts overall lending by 10%.
 - B1 has a relation with FA. It cuts FA by 5%, FB by 15%. Opposite pattern for B2.
 - Looking at FA: -5% from B1, -15% from B2 → larger shock in bank B2.
 - Looking at FB: -15% from B1, -5% from B2 → larger shock in bank B1.
- ❑ Are the identified credit supply shocks robust to the sample of firms used?
 - Average number of banks by firms is high, but for most firms one bank is dominant (large share of firms where that banks account for 90% of loans, table 1).
 - Look at all multi-bank firms, vs. looking at firms with 3 banks or more..

Role of firm size

- ❑ The shock lowers credit, with impact of bank dependence.
 - High dependence dampens contraction for large firms, amplifies if for small ones.
- ❑ Credit contraction has a *positive* effect for small firms, which is odd.

Table 2: Bank Credit Supply Shocks and Firm-Level Credit

	(1) Total credit	(2) LC credit	(3) FX credit
BankShock	-0.800*** (0.205)	-0.701 (0.569)	-1.593*** (0.344)
BankShock × Bank dependence	1.059*** (0.321)	0.950 (0.819)	2.019*** (0.490)
BankShock × Small	1.565*** (0.442)	1.388* (0.770)	7.222*** (1.531)
BankShock × Bank dependence × Small	-2.264*** (0.547)	-2.017** (0.996)	-8.712*** (1.676)
Observations	63,669	56,312	43,716
R-squared	0.207	0.273	0.159

Some additional comments

- ❑ Two way dependency.
 - Paper: is the bank a core funder for the firm?
 - Additional angle: is the firm a core supplier for the bank?
 - I expect a bank to be more receptive to a firm that is a big customer, even if all firms highly depend on the bank.
- ❑ Do we have data on interest rates?
 - Lending may be robust, but at a higher cost.
- ❑ Why exports? Are they data on overall sales?
 - Are only exporting firms in the sample?
- ❑ Stylized fact: put a time-serie chart of *BankShock*, with 1st-2nd-3rd quartile lines.
- ❑ Model make sense, but the implications are pretty much coming directly from eq (15).