Discussion of “Banks Credit and Productivity Growth”
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This paper

Examines the \textit{firm-level} relationship between productivity and bank credit.
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On the theory side:

- A version of the AABM (JME 2010) model
- Each firm makes a short- vs long-term capital allocation decision...
  ... in the face of a shock to liquidity that could limit the firm’s ability to raise bank credit for long-term investment

- Under complete markets:
  - The liquidity shock doesn't matter
  - Higher current productivity: Bank credit obtained for long-term investment ↓ (opportunity cost effect)
  - Higher (expected) future productivity: Bank credit ↑
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On the theory side:

▶ A version of the AABM (JME 2010) model

▶ Each firm makes a short- vs long-term capital allocation decision...

... in the face of a shock to liquidity that could limit the firm’s ability to raise bank credit for long-term investment

▶ Under incomplete markets:

▶ If big enough, liquidity shock constrains the amount of credit the firm can obtain

▶ Higher current productivity: If a liquidity risk effect dominates, then bank credit obtained for long-term investment ↑

▶ Higher (expected) future productivity: Bank credit ↑ (but not as much as under the complete markets case)
This paper

Examines the firm-level relationship between productivity and bank credit.

Empirical evidence:

- Using COMPNET data from Germany, France, Italy:
  - Firm level correlations between credit and productivity growth consistent with the complete markets benchmark in Germany and France
  - But... more consistent with the incomplete markets benchmark in Italy
Broad reactions

- Clearly an important question.
  (Actually a bit surprising that there isn’t a bigger literature already on this specific topic.)

- Theoretical predictions are clean and intuitive.

- COMPNET is a great dataset to use for the purposes of testing these predictions.
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However: Have several comments urging more thinking on . . .

- the best way to bring the theory to the data, in terms of the empirical specification; and

- establishing causality
1. Formulating a test of the theory

Theoretical predictions are described in terms of how bank credit would correlate against current and future productivity *levels*:

\[
\left( \frac{z_t}{\theta - z_t} \right)^{1-\alpha} = \frac{1}{1 + R_t} \frac{E_t[A_{t+1}]}{A_t} \quad \text{(C)}
\]

\[
\left( \frac{z_t}{\theta - z_t} \right)^{1-\alpha} = \left( 1 - \tau_t(A_t) \right) \frac{1}{1 + R_t} \frac{E_t[A_{t+1}]}{A_t} + \quad \text{(NC)}
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(i) Would help to be clearer with regard to what \( z_t \) maps to in the data.
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\]

(ii) Current test: Regress bank credit growth ($\Delta z_t$) on current and future productivity *growth* ($\Delta A_t, \Delta E_t[A_{t+1}]$)

Rationale? Running equations (C) and (NC) in first differences?

Implicitly: Requires a stronger assumption about how expected and actual productivity line up two periods ahead.
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\left( \frac{z_t}{\theta - z_t} \right)^{1-\alpha} = \left(1 - \tau_t(A_t)\right) \frac{1}{1 + R_t} \frac{E_t[A_{t+1}]}{A_t} +
\]

(ii) A more direct test: Why not regress bank credit \((z_t)\) against productivity growth \(\left( \frac{E_t[A_{t+1}]}{A_t} \right)\) and the productivity level at time \(t\) \((A_t)\)?

- Theory suggests that the coefficient on productivity growth \(E_t[A_{t+1}]/A_t\) will be positive in both the (C) and (NC) cases.

- But controlling for \(E_t[A_{t+1}]/A_t\), the coefficient on the level effect of \(A_t\) can be used to discriminate between the (C) and (NC) cases.

Would be positive and significant only in the (NC) case.
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(C) (NC)

(iii) Currently, control variables on the right-hand side include: growth of availability of internal funds, leverage, year dummies, sector dummies.

Would be better to justify this list of controls with reference to the theory.

For eg: Theory indicates that $1 - \tau_t$ is increasing in $l_t$, suggesting that controls for firm size (sales, employment) would be helpful.
2. Causality

Correlations are suggestive. But current empirical exercise is silent on the issue of identification.

▶ Important to resolve this, as it is easy to tell a reverse causality story (especially for the positive correlation between bank credit growth and observed future productivity growth)
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Suggestions:


2. Constructing a Bartik-style firm-level instrument for productivity growth,
   \[ E_t[A_{t+1}]/A_t: \]
   \[ \omega_{is,t-1} \Delta IMP_{st}^d \]

   ▶ \( \omega_{is,t-1} \): (Lagged) Share of destination \( d \) in firm \( i \)'s export portfolio

   ▶ \( \Delta IMP_{st}^d \): Change in destination \( d' \)'s industry-\( s \) imports (less imports from firm \( i \)'s country)
3. Some smaller remarks

- Definition of the liquidity shock distribution, $S_t$, was missing from the description of the model.

- On p.11: (C) coincides with (NC) when $\tau = 0$, not when $\tau$ equals one.

- A more detailed description of COMPNET would help: How was the representativeness of the firm sample assured?

- Why focus on Germany, France, Italy? How about other countries in COMPNET?

- Is there any chance of getting firm survey data on future expectations of sales/growth?

- Empirical specification: How were the standard errors clustered?
Final remarks

- Great project with an important research question.
- Promising empirical strategy to discriminate between the complete and incomplete capital markets case.
- Look forward to seeing how the project develops, especially the empirical evidence.