

Credit Demand and Supply: A Two-way Feedback  
Relation,  
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# Overview of the paper

**Idea:** The credit market can have inefficient downturns because of miscoordinated investment decisions by firms (demand for credit).

## Assumptions:

1. Supply side of credit: many independent banks.
2. Demand side of credit: many independent firms.
3. Complementarities between firms: if many firms invest, each firm is likely to succeed and to repay loans.
4. Macro factor  $\theta$ : in bad times no investment is optimal.
5. Each agent in the economy gets a noisy signal about the macroeconomic factor and acts independently.

## Main results and mechanisms

1. Total investment is the minimum of what the firms want to invest and the banks are ready to lend

$$L^* = \min\{L^S, L^D\}.$$

2. Either supply or demand can be in shortage.
3. All investment projects succeed if macro factor is ok and there is enough investment, otherwise projects fail

$$aL^* + \theta \geq b$$

4. Inefficient downturns due to coordination failures: macro factor is poor, if all firms invest and all banks lend economy will be ok. Since each agent reacts to his noisy signal about the macro factor some firms do not invest, some banks do not lend and the total level of investment is low and the economy is in downturn.

## Contribution

The paper builds on Bebchuk and Goldstein (2011), which had

- ▶ Complementarities in returns: more investment in the economy, each firm is more likely to succeed
- ▶ Coordination problem between banks: each bank independently decides if to lend or not
- ▶ Inefficient downturns because banks fail to coordinate.

### **Main new features of this paper:**

Conceptual contribution: demand for credit and coordination of investment are important, as firms may choose not to invest fearing bad economic conditions.

Technical contribution: moral hazard in firms and banks, and endogenous margin.

Other contributions: two-region(international) extension, indebted firms, empirical evidence.

## What I like about the paper

It highlights an important channel that can lead to downturns – investment decisions by firms.

The paper shows how decision by firms based on individual and imprecise assessments of macro conditions (Animal spirits of Keynes) can lead to downturns, **even if there are no fundamental macro reasons for a downturn.**

Compared to Bebchuk and Goldstein (2011), I believe that demand for credit and coordination problems among firms are more important than among banks, because

- ▶ there are many more small firms than banks  $\Rightarrow$  hard to coordinate.
- ▶ investment decisions require planning and are “slow”  $\Rightarrow$  hard to change “quickly”, while bank lending standard can be changed overnight  $\Rightarrow$  banks can quickly coordinate, increase lending and resolve the crisis if there are no macro grounds for it.

## Comment 1: Why the simultaneous move game?

In reality, firms and banks receive new information continuously, and make decisions. They can see what is happening and what others are doing and react to this.

This is more like a critique of Bebchuk and Goldstein (2011), because I believe banks can act quickly, maybe not small firms.

Your empirical evidence uses the Bank Lending Survey about credit demand/supply, and shows that market reacts to this information in real time. This suggests:

- ▶ Agents react to past decisions of others, so the game is dynamic.
- ▶ Agents see some of the information that others got, so they do not blindly react to their own signal about the macro factors but try to infer what others think.

## Comment 2: What about attempts to coordinate?

There are huge benefits from coordinating and talking to each other, as this can prevent inefficient downturns!

Suppose banks and firms post their individual noisy signals about macro factors, then each of them can infer the aggregate state with less noise, and everyone is better off!

The Bank Lending Survey that you use attempts to do just that, what if we put it in the model? One can consider that only banks share information, or everyone does.

If individual banks or firms fail to coordinate and share information, maybe there is scope for intervention by someone...

maybe the Central Bank, or the government?

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## Comment 3: Optimal information design

In many environments private parties do not handle information well, they use too little or too much of it, they miscoordinate.

One can think of an optimal way for a central party to collect information from agents, maybe add own private information, and disclose this information strategically in a smart way, in order to avoid inefficient reactions by the market.

Example: “Design of Macro-prudential Stress Tests” by Orlov, Zryumov, Skrzypacz (2017). Main point: it is best not to disclose fully the information coming from stress tests to reduce systemic risk.

Ideally, it would be great to see how collection of information from banks/firms by a central party, and its partial revelation to the market in real time affects lending and investment decisions.

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# Conclusions

Interesting paper.

Introduces the demand side to the credit market and shows that it can lead to inefficient downturns with little investment even when macro conditions are ok.

Would be great to see what happens if a central party does optimal information disclosure and study the dynamics.