The Impact of Adverse Selection on Misallocation of Capital and Finance

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RESEARCH QUESTION

Background
• Asym info leads to misallocation of capital and finance... but it is hard to quantify.
• This paper focuses on asym info about firm’s persistent productivity between informed borrowers (firms) and uninformed creditors (bondholders).

How large is welfare loss created by asym info in corporate bond markets?

Equilibrium
• Low productivity firms overinvest in capital to gain “good” reputation by mimicking financing behavior of high productivity firms.
• Leverage and equity are endogenous choices.
• High leverage and equity imply high marginal productivity of capital.
• Productivity is negatively related to likelihood of bankruptcy if all else being equal.

Model Matches with Data
• Dynamic model reproduces realistic leverage and credit ratings (expected default rates) dynamics in data on both average and cross-section before and after firms file Chapter 7 and 11 bankruptcies.

COUNTERFACTUAL I
• Comparison between asym info (benchmark) and full info (counterfactual). Misallocation of capital and finance lowers welfare measured by household consumption.

COUNTERFACTUAL II
• Counterfactual simulation examines contribution of asym info in corporate bond markets.
• High productivity firms pay premia to issue corporate bonds. Cross-subsidization happens in presence of adverse selection.

Policy Recommendation
• Taxation of debt forgiveness improves welfare without changing info structure.

MODEL

Mechanism

Cross-subsidization
low (high) productivity firms oversubscribe (underissue) corporate bonds and overinvest (underinvest) in capital compared to full info.

Signaling
leverage and equity send positive signal to uninformed lenders.

“Good” (“Bad”) reputations lowers (higher) interest rates of corporate bonds.

Reputation Building (Diamond 1991) = Dynamic Learning

Intuition of signaling: higher leverage and equity indicate marginal productivity of capital is higher given decreasing returns to scale production technology.

Counterfactual simulation examines contribution of asym info in corporate bond markets.

Outline of Model and Literature
Estimates firm financing model under dynamic adverse selection consistent with data facts.
• Defaulter debts with heterogeneous firms (Hennessy and Whited 07)
• Integrates screening + signaling problems about firm’s productivity (CCDR 2020)

CONCLUSION

What I Do
• I develop quantitative model of reputation building.

Cross-subsidization in Corporate Bond Markets
Low (High) Productivity Firm Overinvests (Underinvests)  ↓  Capital Misallocation  ↓  Welfare Loss

Policy Recommendation
• Taxation of debt forgiveness reduces incentive of low productivity firms to overinvest in capital and to overissue corporate bonds.