

# Discussion of “Credit Spreads and Business Cycle Fluctuations” by Simon Gilchrist and Egon Zakrajsek

Nina Boyarchenko<sup>1</sup>

Federal Reserve Bank of New York

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<sup>1</sup>The views presented here are the author's and are not representative of the views of the Federal Reserve Bank of New York or of the Federal Reserve System.

## Quick summary

- Construct credit spread index using a panel of bond prices in the secondary market
- Show that constructed credit spread index is a leading indicator economic activity
- Decompose the index into a predicted (“expected default”) and an unexpected component (“excess bond premium”)
- Show excess bond premium increased when credit conditions for broker-dealers deteriorated

## Interpretation

“These findings support the notion that a rise in the excess bond premium represents a reduction in the effective risk-bearing capacity of the financial sector and, as a result, a contraction in the supply of credit with significant adverse consequences for the macroeconomy”

## This discussion

- Dave discussed the empirical properties of the credit spread index and some other market measures
- Focus instead on a mechanism through which excess bond premium could be negatively correlated with economic activity
- Will use recent work with Tobias Adrian to frame the discussion

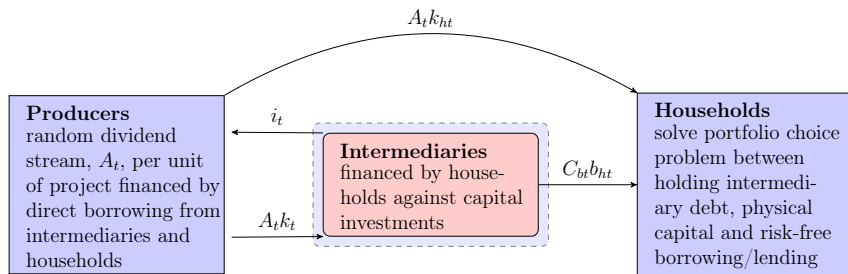
## Nature of financial intermediation

- Channel funds from “households” to the productive sector of the economy (“firms”)
- Are constrained in their ability to borrow from the households (financial regulation)
- The cost to more efficient allocation of household funds to firms is systemic distress risk: intermediaries may default on their obligations to the households
- *Not* going to talk about monitoring role, moral hazard, etc (although important and very interesting)

## Simple framework

- Three sectors: households, firms and intermediaries
- Two shocks: productivity shock for firms; discount rate shock for households
- Firms produce using capital as an input
- Long-term defaultable, callable debt issued by intermediaries
- Households choose optimal portfolio between intermediary debt (“bonds”) and capital (“equity”)
- New capital created by intermediaries only (i.e. households cannot transform output into the capital good)
- Intermediary borrowing subject to a risk-based capital constraint

# Model structure



# Results

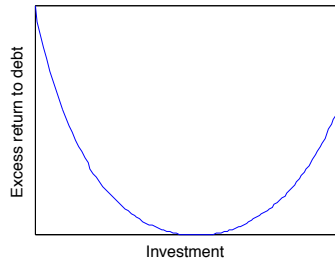
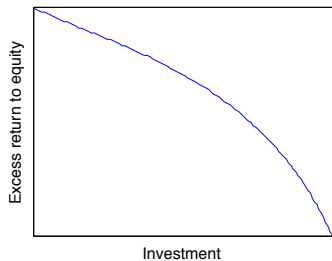
- State of the economy described by two variables: intermediary leverage and relative size of the intermediary in the economy
- State-price density prices two shocks: shocks to intermediary leverage (positive risk price) and shocks to output (risk price switches sign)
- Investment has negative contemporaneous correlation to leverage shocks (and positive to output shocks)

## In terms of Simon's work...

- Positive risk price for leverage shocks  $\Rightarrow$  expected excess returns increase with a positive shock to leverage
- Negative correlation between investment and leverage shocks  $\Rightarrow$  positive shock to leverage decreases investment
- Looks like negative correlation between risk premia (“expected default”) and investment
- Model also generates a negative correlation between excess returns and leverage shocks  $\Rightarrow$  negative correlation between unexpected excess returns (“excess bond premium”) and investment



# Investment and expected excess returns



## Where does this come from?

- Unexpected shocks to leverage have two sources: productivity shocks and household discount rate shocks
- Household discount rate shocks are like shocks to intermediaries' credit conditions
  - +ive discount rate shock  $\Rightarrow$  lower capital price  $\Rightarrow$  higher leverage
  - Higher leverage  $\Rightarrow$  tighter capital requirement  $\Rightarrow$  lower investment
- Productivity shocks are more "global" and affect everyone's credit conditions
  - -ive productivity shock  $\Rightarrow$  lower capital price  $\Rightarrow$  higher leverage
  - Lower capital price  $\Rightarrow$  lower investment
  - Higher leverage  $\Rightarrow$  tighter capital requirement  $\Rightarrow$  lower investment

# Intermediated vs. direct credit

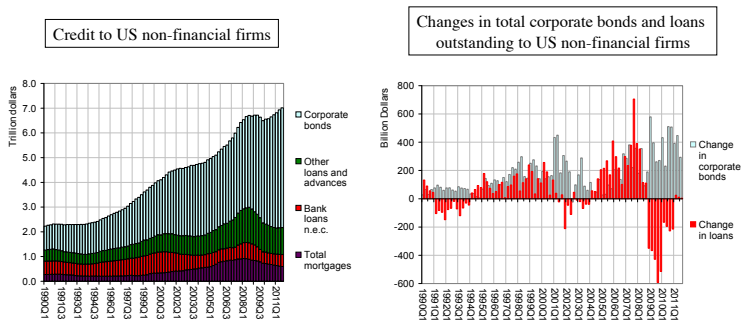


Figure 1. Credit to US non-financial firms (left hand panel) and changes in outstanding corporate bonds and loans to US non-financial firms (right hand panel). The left panel is from US Flow of Funds, table L102. Right panel is from table F102. Loans in right panel are defined as sum of lower three categories in left panel.

Source: Adrian, Colla and Shin (2012)

# Recap

- Authors show forecastability of economic activity by credit spreads
- Need a model to think through where the forecasting power comes from
- Possible mechanism: balance sheet dynamics of financial intermediaries drive both credit spreads and economic activity