MACRO-FINANCE LINKAGES

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Outline

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Motivation

- Global Financial Crisis (GFC) of 20072009
- The survey is intended to be accessible to a wider audience than just macroeconomists and financial economists.
- This survey is focused on the relationship between financial markets and the business cycle. It does not cover the huge literature on the influence of financial markets on long-term economic growth.

Basic Models

- The most basic theory of macro-finance linkages$\Rightarrow$ sideshow: with no direct effect on the macroeconomy
- the connection is a one-way street running from the real economy to financial markets:
  - Economy falls into recession $\Rightarrow$ the stock market invariably falls with it
  - But, a large decline in the stock market does not necessarily precipitate a recession.

Modigliani-Miller (1958)

- debt versus equity financing of capital investment has no impact on the value of a firm
- firms investment decisions: , the real interest rate, determined by the marginal product of capital or possibly monetary policy in the short run **rather than developments in financial markets**
- theorem assumes debt and equity have the same tax treatment: tax systems typically favour debt by making interest payments tax deductible, helping to explain why many firms are highly leveraged

Modigliani-Miller (1958), Continued

- Assumptions need not be literally true to make a theory useful!
- perfect information vs asymmetric information
- "external finance premium" is, a wedge between the actual cost of borrowing faced by many firms and the risk-free real interest rate

Credit Risk Spread

- The gap between the corporate bond yield and the Treasury yields, often referred to as the "credit risk spread"

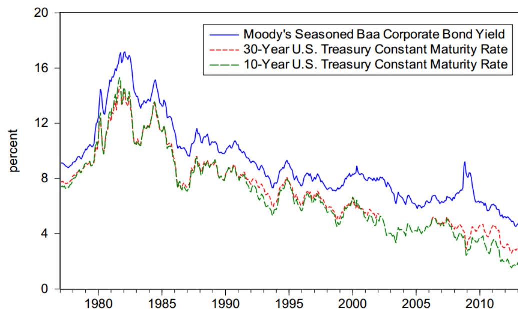

Figure 1. U.S. Corporate and Government Bond Yields 1977–2013
Source: Federal Reserve Economic Database

Hierarchy in Firms' Investment

- Firms can avoid the external finance premium $\Rightarrow$ internal financing
- Hierarchy: Cash, Debt, Equity

Investment accelerator

- firms investment boosts economic activity
- economic activity boosts firms investment
- multiplier process that amplifies economic shocks
- investment accelerator can be motivated by firms investment decisions in the face of an external finance premium
- **The importance of cash flows for investment financing motivates how the financial sector can amplify economic shocks**

financial markets are a source of economic shocks?

- In the face of a financing hierarchy and a scarcity of cash flows, many firms investment decisions will be affected by the cost of debt and equity financing
- large changes in the external finance premium, such as occurred in the GFC
- Bernanke and Gertler (1989): relate the external finance premium to firms net worth and leverage , Kiyotaki and Moore (1997): durable assets
- To summarize, most of the theories discussed in the literature suggest that financial markets have the ability to generate and amplify economic shocks through changes in the external finance premium faced by firms making capital investment decisions.

Causation

- correlation is not necessarily causation
- it is clear that financial prices reflect what market participants anticipate about future economic conditions
- it should be of little surprise that financial indicators are correlated with and can help predict those future economic conditions
- forecasting models of real economic activity to determine whether financial variables provide any marginal (in the sense of additional rather than trivial) predictive content for economic activity beyond economic activity itself
- **Granger causality**: attempts to control for the inherent predictability of economic conditions due to macroeconomic shocks and their typical momentum.

Financial Conditions Indices (FCI)

- Hatzius et al. (2010): evidence of large changes in the marginal predictive relationship for individual financial variables
- some of the changes in financial conditions are driven by changes in monetary policy in response to economic conditions
- purging their FCI of movements in financial variables related to output growth and inflation and exclude the Federal Funds Rate.
- Recently, Gilchrist and Zakrajsek (2012): find that changes in the excess bond premium (movements in the credit risk spread above and beyond what is implied by the current state of the economy) predict significant fluctuations in real economic activity

Global Scope

- Countries that escaped the worst of the crisis were not the ones with the fewest trade links. Instead, it was the countries with relatively insulated financial systems.
- the focus here is on the extent to which financial conditions spill over across countrie
- financial-market contagion: Eichengreen et al. (1996), Calvo and Mendoza (2000), and Kaminsky et al. (2003)
- asset returns are more highly correlated across markets during periods of crisis than during periods of calm: does not necessarily imply causation

Policies

- Eggertsson and Krugmans (2012) theoretical findings discussed above is that expansionary fiscal policy when interest rates are near the zero-lower bound
- unconventional monetary policies: remains an open question
- how monetary policy should be designed in the face of macro-finance linkages that lead to crises in the first place?
- microprudential regulation that attempts to manage the solvency risks of individual bank balance sheets in isolation of the rest of the financial system or the state of the business cycle.
- more of focus on systemic risk: *macroprudential* regulations

Inflation Targeting

- Borios (2011): more emphasis on housing and asset prices in setting interest rates
- role of monetary policy in creating the conditions that led to the GFC: primarily due to a failure of prudential policy
- A strong motivation for avoiding targeting asset prices is the historical experience with the gold standard
    - nominal anchor, fixing the price of gold certainly prevents hyperinflations
    - However, it can also require large adjustments of consumer prices in the case of large changes in supply or demand for gold
- Given the inherent volatility of real asset prices, any targeting of asset prices could produce persistent periods of deflation or excessive inflation in the prices of goods and services

Summary

- Theory shows the linkage
- More channels to be discovered about “financial accelarator”
- Financial Contagion: lack of theory and emperical work
- Policy maker: inflation targeting or asset price targetting?

Thanks For Your Attention!