

# LOW RATES AND RISK

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BERNACER PRIZE  
IN HONOUR OF RALPH KOIJEN  
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## MONETARY POLICY TRANSMISSION

- ▶ Neo-keynesian models: moving the short rate and expected path of the short rate affects aggregate demand and asset prices (Woodford (2003), Gali (2008))
- ▶ Aggregate demand management translates into wage and price inflation according to some version of the Phillips curve
- ▶ Open economy versions: tradeoff between output gap stabilization and the terms of trade (Obstfeld and Rogoff (2002), Corsetti and Pesenti (2005), Farhi and Werning (2013))

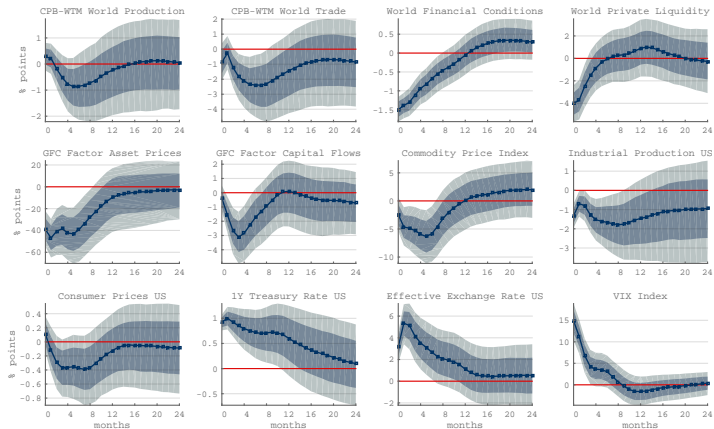
## FINANCIAL MARKETS AND MONETARY POLICY TRANSMISSION

- ▷ Broadly defined as the "*credit channel*" of monetary policy (Bernanke and Gertler (1995), Kiyotaki and Moore (1997), Gertler and Kiyotaki (2013))
- ▷ Agency costs are important. Applies to banks and non banks, households, corporates: "net worth", "balance sheet", "bank" channel.
- ▷ There is an external finance premium which is affected by monetary policy
- ▷ "*Risk taking channel*" (Borio and Zhu (2008), Adrian and Shin, Bruno and Shin (2014), Coimbra and Rey (2020))
- ▷ Emphasis is put on risk and leverage (Value-at-Risk constraints)
- ▷ In good times, asset prices are high, spreads are compressed and measured risk is low. Leverage is less constrained.
- ▷ RALPH AND MOTO'S WORK IS KEY TO ESTIMATE EFFECT OF MONETARY POLICY (QE) ON ASSET PRICES.

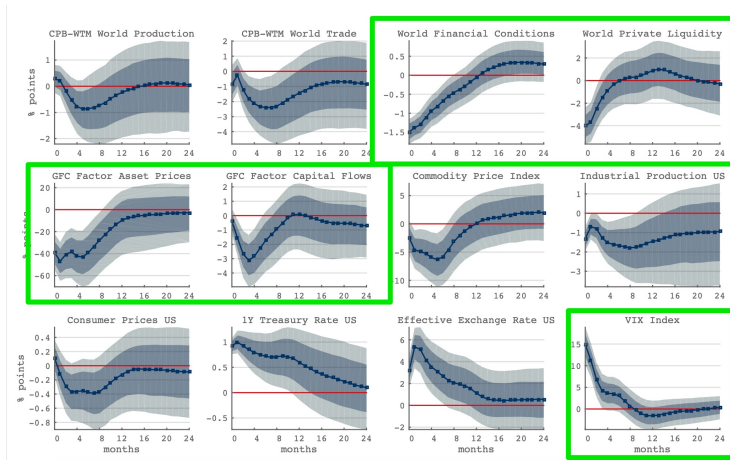
## RISK AND LOW RATES

- ▷ Ralph and Moto's work on insurance companies: variable annuities, imperfect hedging, duration gap. Are runs relevant in case of an abrupt increase in interest rates?
- ▷ Banks: leverage risk.

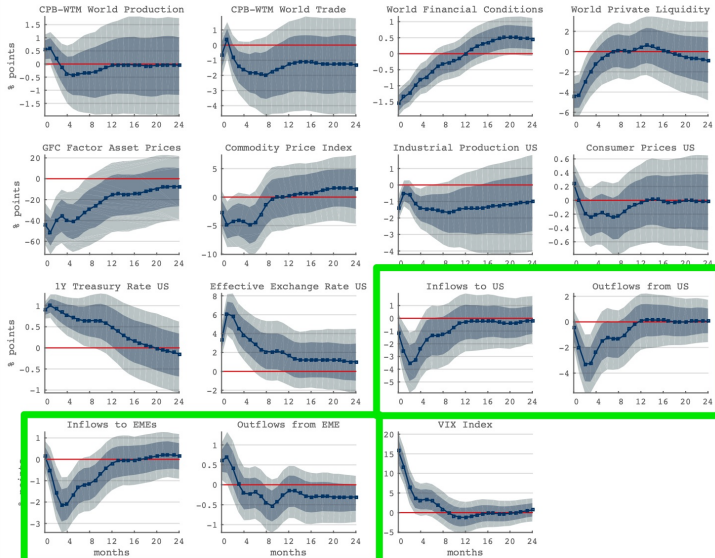
# TRANSMISSION OF US MONETARY POLICY #1



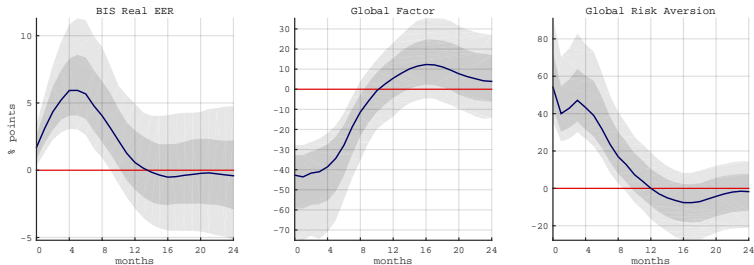
# TRANSMISSION OF US MONETARY POLICY #1



# TRANSMISSION OF US MONETARY POLICY #2



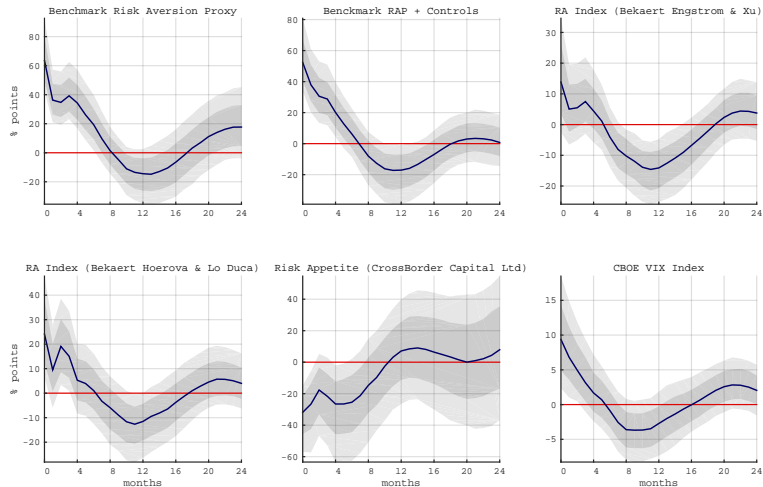
# Global Asset Prices and Risk Aversion



**Figure:** Response of Asset Prices (% points) to a monetary policy shock inducing a 100bp increase in the Effective Fed Funds Rate.

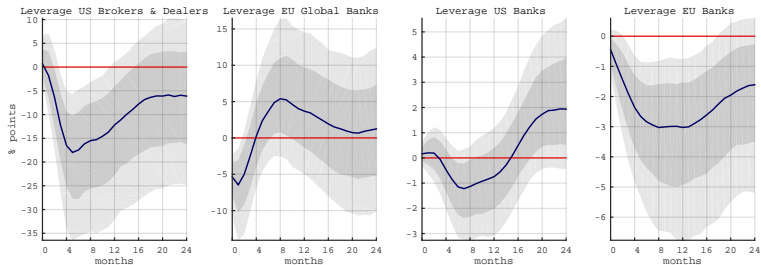


# Other Measures of Risk Aversion



**Figure:** Response of Risk aversion (% points) to a monetary policy shock inducing a 100bp increase in the Effective Fed Funds Rate.

# Bank Leverage in the US and the EU



**Figure:** Response of Banking Sector Leverage (% points) to a monetary policy shock inducing a 100bp increase in the Effective Fed Funds Rate.

# Taking stock

- ▶ US Monetary Policy is a driver of credit creation worldwide, global factor in asset prices, risk premium, leverage of global banks, cross border flows.
- ▶ Interpretation:
  - ▶ US Monetary Policy is driving time varying risk aversion in global markets. This could be due to composition effects in international financial markets (Geanakoplos (2010); Coimbra and Rey (2020) )
  - ▶ Fluctuations of the market shares of the most risk taking agents over the Global Financial Cycle
  - ▶ During the 2003-2008 period global banks were the most risk taking agents
  - ▶ Looser US monetary policy decreases funding costs of global banks who leverage more. When leveraged global banks are marginal pricers of assets, risk premia are lower.

# International Flows

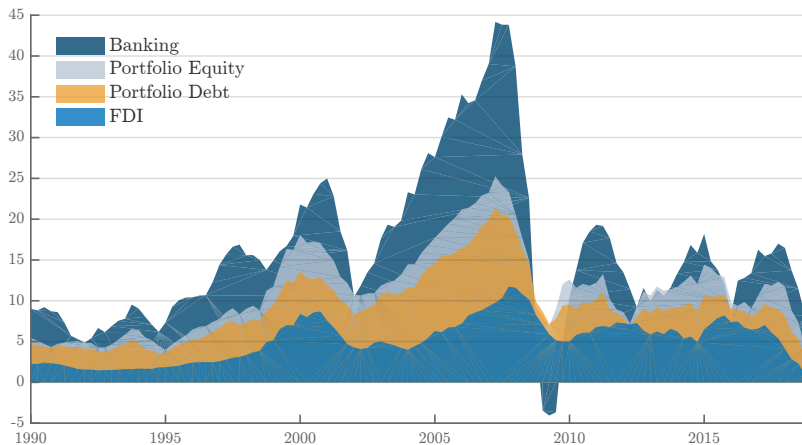
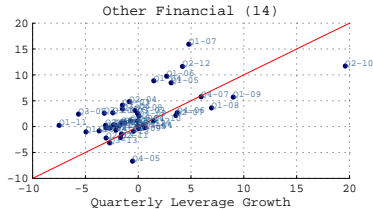
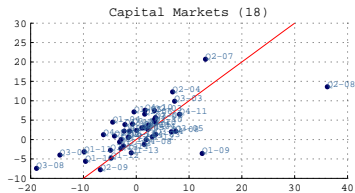
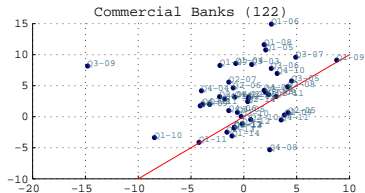
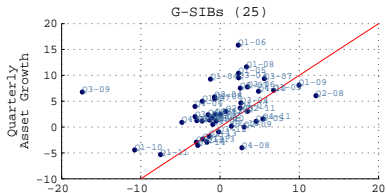


Figure: Flows scaled by world GDP

# Leverage of Banks



# Banks and Systemic Risk: International Sample

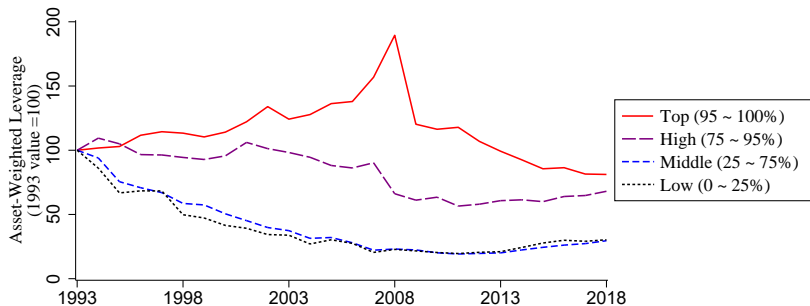
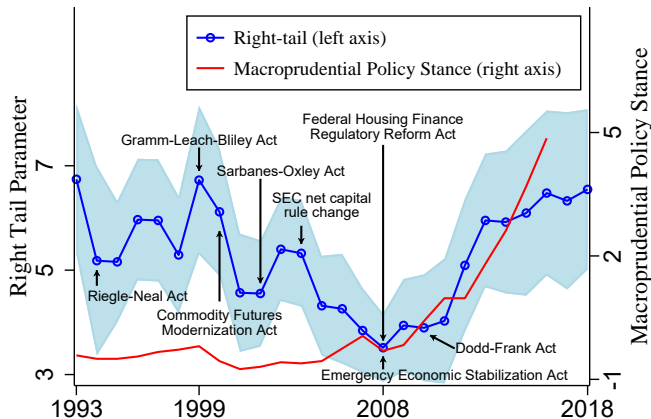


Figure: Leverage quantiles of banks

# Banks and Systemic Risk



**Figure:** Blue line going down means more risk taking (structural estimates from granular balance sheet data). Source: Coimbra, Kim and Rey (2021) *Journal of Monetary Economics*

## CONCLUSIONS

1. **Koijen Yogo's and Koijen Gabaix work key to understand how regulatory constraints and macroeconomic conditions interact**
2. **Key for insurance companies (vastly understudied before)**
  - ▷ Low rate and insurance balance sheets: duration gap
3. **Regulatory constraints and regulation also key for banks risk taking**
  - ▷ Low rate and lax regulation: high leverage
4. **Public finances**