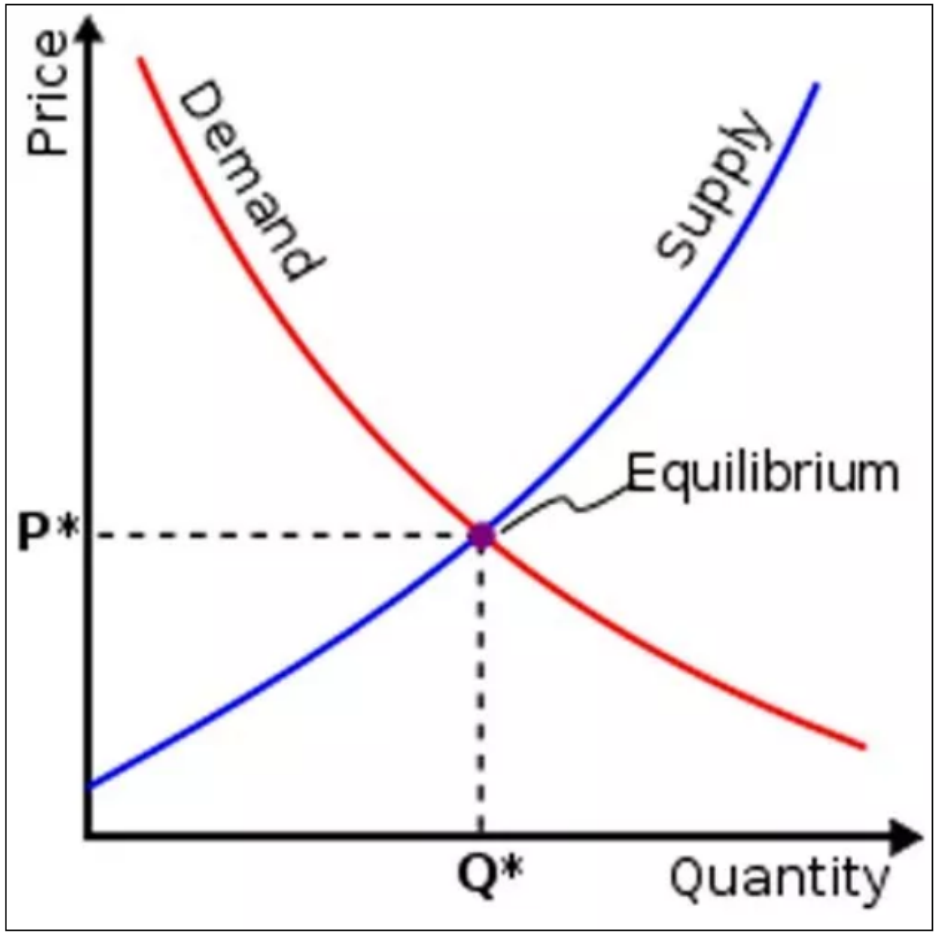
Koijen and Yogo: Exchange Rates and Asset Prices in a Global Demand System

Discussion by
Lukas Schmid

USC Marshall & CEPR

Equilibrium Economics



source: The internet (2020)

Equilibrium Asset Pricing

Q: Where Does Asset Demand Come From?

Equilibrium Asset Pricing

Q: Where Does Asset Demand Come From?

A1: From the representative agent's consumption-savings decisions?

Equilibrium Asset Pricing

Q: Where Does Asset Demand Come From?

A1: From the representative agent's consumption-savings decisions?

A2: From intermediaries' asset holding and investment decisions?

Equilibrium Asset Pricing

Q: Where Does Asset Demand Come From?

A1: From the representative agent's consumption-savings decisions?

A2: From intermediaries' asset holding and investment decisions?

But how do we model intermediaries decisions?

Equilibrium Asset Pricing

Q: Where Does Asset Demand Come From?

A1: From the representative agent's consumption-savings decisions?

A2: From intermediaries' asset holding and investment decisions?

But how do we model intermediaries decisions?

Issues:

- Heterogeneity
- Inestment mandates
- Regulation

Equilibrium Asset Pricing Meets Industrial Organization

Koijen and Yogo (2019, JPE): A *revealed preference* approach consistent with institutional holdings

- Specify intermediaries' demand directly as a function of prices and asset characteristics and residual demand
  - Logit regression of asset holdings (weights) on prices, characteristics, and latent demand (residual)
  - accomodates naturally different investment mandates (e.g. value vs growth investors, duration vs short-term investors)
  - equilibrium condition: value of holdings has to match up with demand
    - can compute asset prices under various counterfactual scenarios

Equilibrium Asset Pricing Meets Industrial Organization

Koijen and Yogo (2019, JPE): A *revealed preference* approach consistent with institutional holdings

- Specify intermediaries' demand directly as a function of prices and asset characteristics and residual demand
  - Logit regression of asset holdings (weights) on prices, characteristics, and latent demand (residual)
  - accomodates naturally different investment mandates (e.g. value vs growth investors, duration vs short-term investors)
  - equilibrium condition: value of holdings has to match up with demand
    - can compute asset prices under various counterfactual scenarios
- Standard approach in empirical IO
  - empirical challenge: residual demand likely correlated with prices leading to inconsistent estimates $\rightarrow$ efficient estimation requires a good instrument (US case: persistent investment mandates)

Exchange Rates and Asset Prices in a Global Demand System

This paper: Extend logic to an international setting

Empirical motivation: IMF (Coordinated Portfolio Investment Survey) provides detailed data on international holdings data

- E.g. what fraction of US long-term debt is held by Swiss investors? What fraction of Japanese equities is held by UK investors?
- Holdings data is aggregated at the country level

In equilibrium, Swiss investors US long-term bond holdings have to match up with their demand for US long-term bonds

- Specify Swiss investors' demand for a foreign asset class (ST vs LT bonds vs stocks) as functions of prices, country macro characteristics, and country fixed effects
- Holdings are expressed in \$ $\rightarrow$ Exchange rates are determined in equilibrium

What Drives Exchange Rates and Asset Prices?

Global demand system allows for a rich set of counterfactuals

Variance decompositions

- What would happen to prices if some macro/latent characteristics would not move?
- Fundamental sources account for 55 percent of the variation in exchange rates. Latent demand accounts for the remaining 45 percent

Identification of convenience yields in US assets

- What would happen to prices if there were no fixed effects in demand for US assets?
- In the absence of special status, the US long-term yield would be 2.15 and the US annual expected stock return would be 1.70 percentage points higher

Through the demand system, geographic origins of variations in demand can be traced

(Dis-)aggregation?

Holdings data is aggregated at the country level

Are these the holdings of a 'representative agent'?

- How much more heterogeneity and granularity can be accommodated in the model? Tractability?
- Which investors drive exchange rate and asset price movements?
- How much heterogeneity in the price elastcities of demand across investors and countries?
- If this is about representative agents' holdings, how do the implications line up with those of 'standard' models?

Finance and the Real Economy?

Assumption: There are movements in macro variables that are exogenous to financial markets

- 'Our starting point is the assumption that asset characteristics and quantities are exogenous in the same spirit as asset pricing in endowment economies (Lucas 1978)'

Validity of the instrument builds on this assumption (identifying assumption)

- Characteristics: log nominal GDP, log real GDP per capita, inflation, equity volatility, sovereign debt ratings, export share, import share, and distance
- What about feedbacks between monetary and fiscal policy operations in bond markets and the real economy?
- 'Standard' macro models would imply that there are exogenous shocks that are jointly endogenously reflected in quantities and prices. 'How valid' would the proposed instrument be in a 'standard' macro model?

Conclusion

- Nice paper!
  - highly promising agenda
  - more scope to exploit heterogeneity and granularity of the data
  - are financial markets and the real economy really so disjoint?
  - what's the link between households' and intermediaries' decisions?