

Barriers to Global Capital Allocation
Pellegrino, Spolaore, and Wacziarg

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This Paper

Solving the Lucas Puzzle

- Developing countries are capital poor
- Their Marginal Product of Capital (MPK) is high: they present good investment opportunities
- Why doesn't capital flow from rich countries (lots of capital, low MPK) to poor countries

What are the relevant frictions in cross-border investment

- Measurement: is there a Lucas puzzle at all?
- Institutional frictions
- Financial frictions
- Information

This paper

- Information frictions driven by cultural and geographical distance
- Heterogeneous taxation (measurement of MPK argument)

What are we trying to do

Natural solution

- Measure MPK across countries and look at correlation with capital flows
- First stage: time-series regression across country-pairs:

$$\text{Flow}_{ijt} = \beta_{ij} \Delta \text{MPK}_{ijt}$$

- Second stage (Fama-MacBeth): what shapes the response of flows to difference in returns
 - ▶ Regress β_{ij} on country-pair characteristics
 - ▶ Typical empirical gravity equation:

$$\beta_{ij} = \alpha X_i + \gamma X_j + \delta X_{ij}$$

- ▶ Interpret!

This paper's solution

Simple version

- β_{ij} are driven by informational frictions
- These frictions are driven by geography/language/culture
- These frictions are large and account for significant fraction of misallocation of capital (difference in MPKs)

Paper version

- Quantitative model of capital allocation
 - ▶ International finance model determines capital investment from country j to country i , a_{ij} .
- Investment decisions driven by Euler equation with two distortions
 - ▶ Capital taxation across countries τ_i
 - ▶ Information acquisition: different priors across country-pairs φ_{ij}
 - ▶ Information priors drive portfolio share directly and are determined exogenously from the “distance”
- Solve the model and account for role of frictions

Why do we need the long version

The case against

- Interesting fact without bells and whistles of quantitative model
 - ▶ e.g. Alfaro et al. (2008): empirical view of institutional frictions
- Shorter!

The case for

- Counterfactuals
 - ▶ Change in informational friction or taxation lead to 6% rise in GDP
- Policy implications
 - ▶ Investment in information: here it is mostly based on immutable characteristics
 - ▶ Taxation...

Gravity in investment

Investment in country i by investor j : a_{ij}

$$a_{ij} = \underbrace{\frac{\tau_i \kappa_i y_i \cdot \exp[d_{ij}\beta]}{\sum_k \tau_k \kappa_k y_k \cdot \exp[d_{kj}\beta]}}_{\text{Relative attractiveness}} \cdot \underbrace{\delta^{-1} \frac{s_j}{y_j} \cdot y_j}_{\text{size of my portfolio}}$$

Portfolio allocation depends on

- Relative attractiveness of country i viewed from country j
 - Tax regime, size, how close I am (my prior)
- How much I want to invest

Clear insight within complex model

- Keep simple structure $\text{Flow}_{ijt} = \beta_{ij} \Delta \text{MPK}_{ijt}$
- Within GE model: ready for policy analysis

Model misspecification

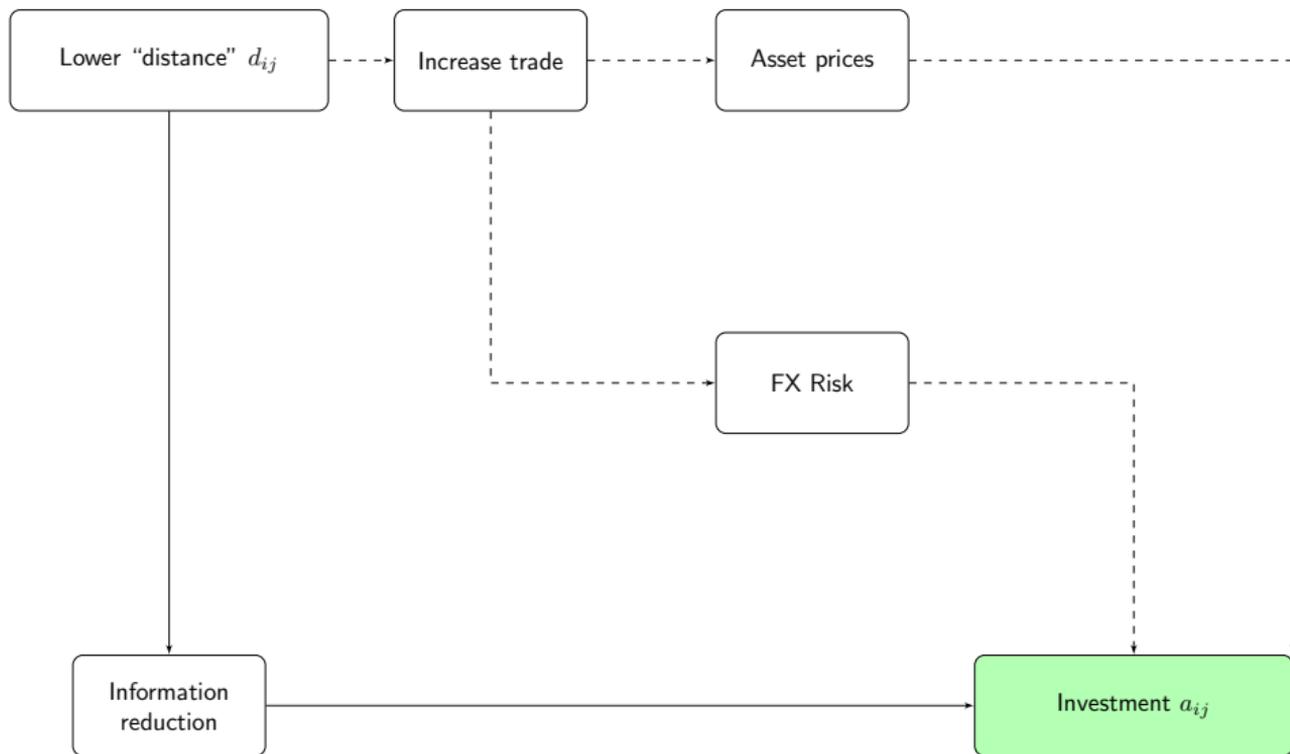
Information counterfactual

- Lowering information barriers lowers return posterior variance: higher investment
- Information barriers affect investment through multiple channels

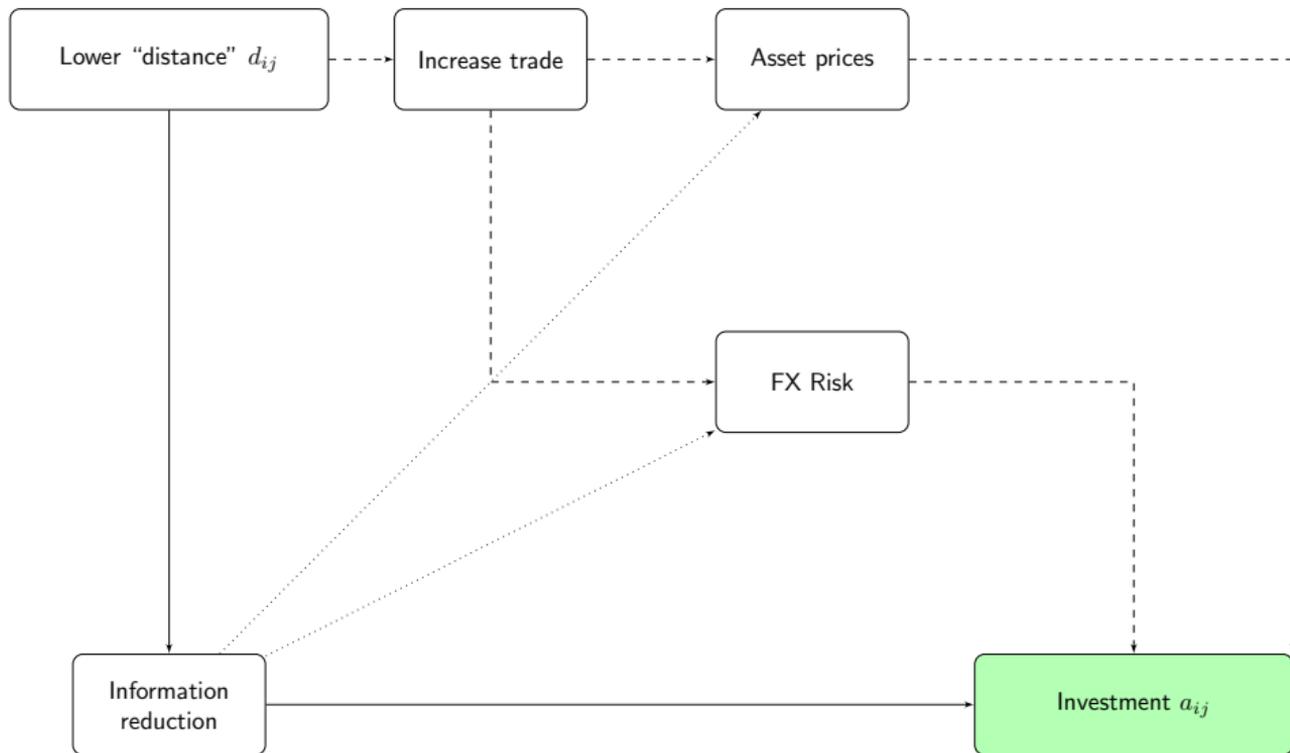
Model misspecification



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Model misspecification

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How to interpret the changes

- In model: changes in information only goes through lower posterior variance
- Other channels (non exclusive): increase in trade (standard gravity)
 - ▶ Increase in FDI
 - ▶ Reduction in FX risk
 - ▶ Increase in some firm risk premia

Solutions

- Instrument for information (exclusion restriction)

Other Comments

Distinction between flows and stocks

- Model considers portfolio allocation: static model in nature
- Is there something to be learned from the dynamic response of flows?

Home bias

- No more home bias: contrast the result to the current literature
- Technology is similar as van Nieuwerburgh and Veldkamp with convexification: *different results?*

Final Thoughts

Very interesting Paper!

Take away

- New model to find *gravity* portfolio allocations across countries
- Sheds light the roots of capital misallocation, i.e. the Lucas puzzle
- Tons of innovations ... too many to list here ... go read the paper

Great Paper!