

# Multinational Firms, FDI Flows and Imperfect Capital Markets

Pol Antràs  
Mihir Desai  
C. Fritz Foley

Harvard University and NBER  
Neemrana  
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# Motivation (1)

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Great interest in the influence of contracting environments on financing and investment patterns

Exclusive theoretical and empirical emphasis on firms that are presumed to be entirely local – raising money locally, operating locally.

Contradicts reality of high levels of global integration - eg. shares of profits/investment from abroad for developed country firms and reliance of institutionally fragile economies on FDI

In the Indian setting, the increased presence of multinational firms and growth of Indian multinational firms merits an understanding of their operational and financing decisions

# Motivation (2)

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Two distinct literatures on MNCs and FDI that emphasize either *capital flows* or *patterns of firm activity*

- Macro literature on financial flows asks why more capital does not flow to emerging markets
  - IO and International Trade literature on MNC activity emphasizes the role of proprietary assets to explain where firms base activity
- To our knowledge, there is no integrated explanation of how MNC operational and financial decisions are linked

# Question and Approach

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How are FDI flows and MNC firm activity interrelated? Particularly, in a world with frictions in financial contracting and variations in capital market development?

- A model of how firms jointly make operating, financial & investment decisions in a setting where financial frictions play a central role

- Follow Holmstrom and Tirole (1998)'s moral hazard approach to modelling financial frictions; monitoring helps alleviate financial frictions.

- Key Idea: Inventors (MNC firms) wanting to deploy technology abroad have comparative advantage in monitoring its use relative to other funders (i.e, external investors)

- Consistent with managerial literature

- Dunning (1970) notes that MNCs provide “informal managerial or technical guidance,...the dissemination of valuable knowledge and/or entrepreneurship in the form of research and development, production technology, marketing skills, managerial expertise, and so on...”

# What we already know...(1)

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Large, growing literature on quality of contracting institutions and firm financing and investment decisions – results on market capitalization, ownership structures, and industrial structures

This literature all abstracts entirely from firm activity *across* borders

Some attention to cross-listing decisions and contracting institutions but no notion of cross-border activity by firms...Gertler & Rogoff (1990), Boyd and Smith (1997) and Shleifer and Wolfenzon (2004) take first steps by introducing open economy setting with heterogeneity in contracting institutions

# What we already know... (2)

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Two very distinct literatures on flows and MNC activity

Macroeconomic literature on capital flows

Lucas (1990) Paradox: why capital does not flow to poor countries given large presumed rate of return differentials => human-capital externalities; Reinhart and Rogoff (2004) point to credit markets and political risk

IO and international trade literature on patterns of activity– Discuss patterns of MNC activity emphasizing transportation costs, EOS & proprietary assets

Horizontal FDI – Transport costs and tariffs lead to local production  
Vertical FDI – Fragmented production worldwide to take advantage of relative advantages

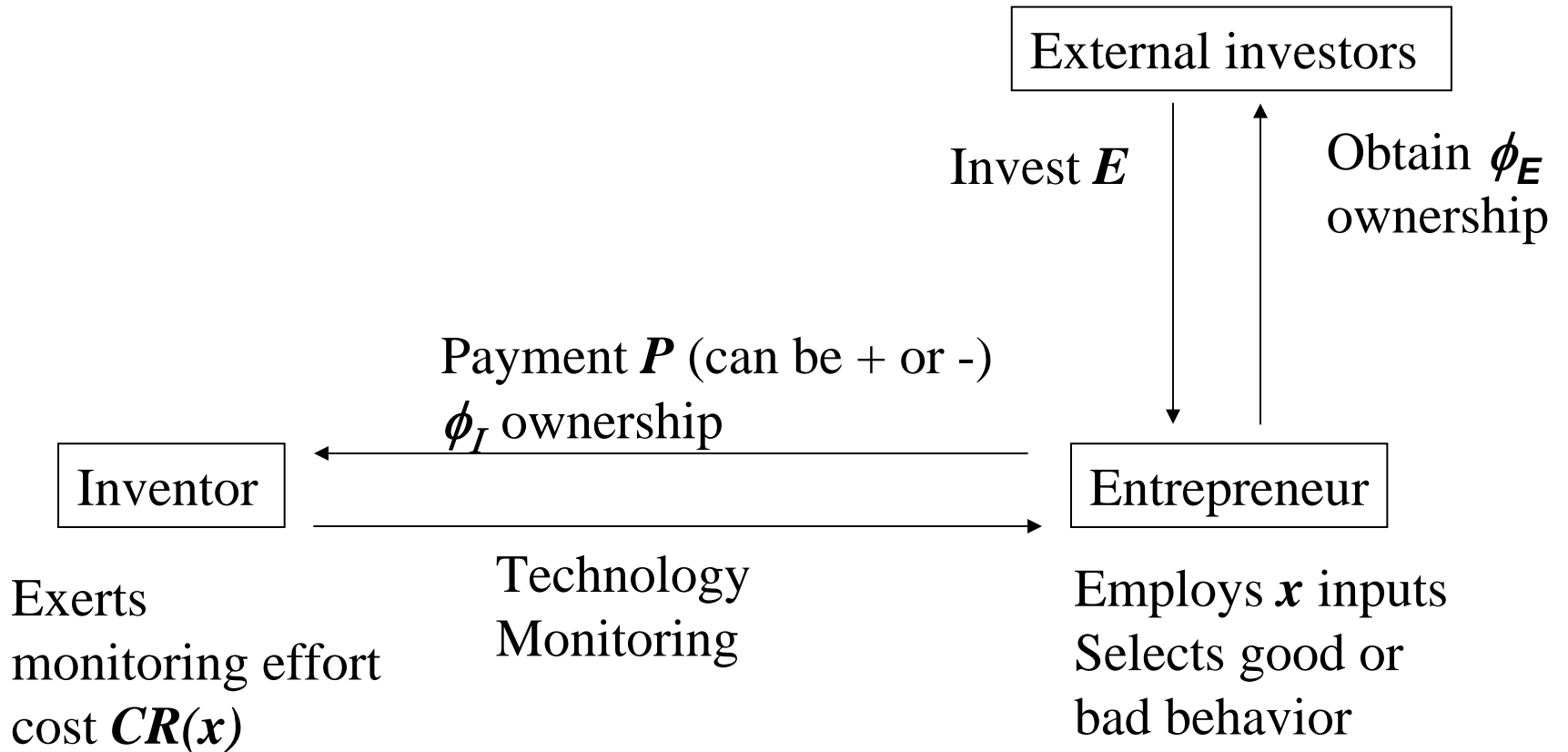
No unification of explanations of flows and activity

# A Simple Picture of the Model

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Home Country

Foreign Country



# Findings (1)

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The optimal exploitation of the technology in a foreign country will generally be associated with monitoring by the “inventor” (or parent firm)

When is monitoring associated with equity participation?

- Not when monitoring is verifiable - then, inventor provides technology and monitoring without investing and simply receives licensing fees
- When monitoring is nonverifiable, optimal contract stipulates that inventor takes a stake in the project to ensure an incentive to monitor; in addition, the inventor may be required to cofinance the investment (through FDI flows)
- External investors demand equity participation and cofinancing by inventor to induce monitoring

Mechanism generating MNC activity is not risk of expropriation of technology by a local partner but the demands of external investors who want to maximize the value of their investment

# Empirical Findings (1)

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Empirical predictions of model receive support in tests using detailed firm-level BEA data

- FDI vs. Licensing: firms are more likely to exploit technologies through licensing in countries with stronger investor protections, controlling for various other institutional determinants of this decision
- Scale of activity: weak investor protections limit the scale of activity by MNC firms – empirically, we test this by showing that liberalizations of ownership restrictions have larger effects in countries with poorly developed capital markets

# Empirical Findings (2)

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Empirical predictions of model receive support in tests using detailed firm-level BEA data

- Financing: share of affiliate assets financed by parent is a decreasing function of investor protections –these effects are more pronounced for technology intensive firms
- Ownership: share of affiliate equity owned by the parent is a decreasing function of investor protections – again, these effects are more pronounced for technology intensive firms
- The model explains why patterns of limited licensing, low MNC activity and high relative financing flows are present in institutionally weak settings...and why so much MNC activity is between developed economies

# Conclusions (1)

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- The paper provides an integrated explanation for MNC activity and the way it is financed
- Desire to exploit technology is critical, but frictions associated with obtaining external finance give rise to multinational activity, not risk of expropriation of technology
- US MNCs, especially technology intensive ones, exhibit behavior consistent with predictions of model
  - Propensity to do FDI vs. licensing, the share of affiliate assets financed by the parent and the share of affiliate equity owned by the parent are all higher in countries with weak financial development, but the scale of MNC activity is lower in such settings

# Conclusions (2)

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- For India and MNCs...
  - MNC activity is likely limited by concerns over managerial opportunism and weak investor protections
  - Outbound Indian MNCs may be associated with lots of external activity and limited net flows
  - The ability of Indian MNCs to employ their internal capital markets opportunistically will help dictate their overseas and domestic success