Ownership Chains in Multinational Enterprises

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Abstract

In this work, we investigate the rationale of ownership chains developed by multinational enterprises (MNEs) across different national borders. We hypothesize locations along ownership chains to be driven by communication costs to transmit management decisions. In line with motivating evidence, we develop a theoretical model of competition for corporate control that allows parent companies to delegate the task of monitoring subsidiaries to middlemen located in intermediate jurisdictions. Our model returns a two-step empirical strategy with: i) a triangular gravity for establishing a middleman by the parent, conditional on final investments’ locations; ii) a classical gravity for the location of final investments. Model predictions are confirmed in a sample of more than 200,000 MNEs: ease of communication between countries shapes the trajectory of global ownership chains.

Ownership chains within corporate boundaries

![Figure 1: An example of corporate control structure](image)

Introduction

A common feature in the organization of MNEs is the development of ownership chains across multiple country borders. We refer to the concept of companies as knowledge-based hierarchies (Garicano, 2000) and hypothesize that the rationale behind global ownership chains relates to the organization of efficient communication of management decisions between affiliates and parent companies scattered across different countries. We accordingly elaborate on the original intuition by Head and Ries (2008) on the emergence of a market for corporate control when parent companies and affiliates are located in different countries and extend their model to include cases of three-tier corporate structures. From our perspective, three-tier corporate structures are simplified ownership chains where (at least) a middleman subsidiary located in a country communicates management decisions from the parent company, which is located in an origin country, to a final subsidiary in a destination country. Eventually, we derive two estimable gravity equations to evaluate the role of communication frictions and explain the extensive margin of locating multinational firms’ both final and intermediate investments.

Delegation of monitoring model

A parent in country i cannot verify the effort of a subsidiary in country j without delegating to a third managerial unit, the middleman, in country k.\[\delta_k = \delta_a + \delta_y - \epsilon_v\]

\[\delta_k = \text{cost for a parent in } i \text{ to delegate to a middleman in } k\]

\[\delta_y = \text{cost for a middleman in } k \text{ to monitor a subsidiary in } j\]

\[\delta_k \geq \delta_a \geq 0 \Rightarrow \text{delegation cost always higher than monitoring cost}\]

Parent investment process occurs in two simultaneous steps:

1. Monitoring decision: probability that a parent in i picks country k as monitoring location, conditional on investing in country j

\[\pi_{i,j} = P(\sigma_{i,j} \leq C_{ij}, \forall \neq k) = \frac{e^{-\delta(\sigma_{i,j})}}{\sum_{k=1}^{N} e^{-\delta(\sigma_{i,j})}}\]

2. Competition for corporate control: probability that a parent in i wins the auction for a final subsidiary in j

\[\pi_{i,j} = P(\nu_{i,j}^{\text{max}} > \nu_{k,j}^{\text{max}}, \forall \neq j)\]

Empirical strategy and Results

Triangular gravity for middleman location

\[M_{ij}^M = \exp(\beta^w \text{wh}_a + \beta^w \text{wh}_y - \gamma_i + \delta^w \text{wh}_a + \delta^w \text{wh}_y \pi_{i,j})\]

Bilateral gravity for final subsidiaries location

\[M_{ij}^F = \exp(-\theta \sqrt{C_{ij} + \gamma_j + \gamma_i})\]

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<th>Location</th>
<th>Middleman</th>
<th>Final subsidiaries</th>
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<td>within subsamples defined by industry specialization</td>
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Conclusions

We confirm our model predictions that a decrease in delegation and monitoring costs discourage middleman location. Increasing the ease of communication between middlemen and final subsidiaries lowers the expected share of indirect control paths passing through country k by an amount that is twice the effect we find between parents and middlemen. This supports our model assumption claiming the cost of delegation to be less binding than the cost of monitoring for a parent company. We derive and estimate a bilateral index capturing the expected cost for a parent company to monitor a remote target in a given location. As predicted by our model, we find the expected cost of monitoring to negatively affect MNEs investments.

References


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