The choice of board directors with monitoring the big concern in MNC’s Foreign Subsidiaries
XIANG GAO

1 Introduction

1.1 Motivation
Several important issues with regard to the ownership and control structure of subsidiaries

- Ownership structure of the subsidiary: who should hold what percentage of shares.

  Multinational Cooperation (MNC) headquarter holds \( \theta \) shares of the subsidiary, and the rest \((1 - \theta)\) is held by local investors.

- Board structure of the subsidiary: two dimensions to consider.

  1. The proportion of local board directors;
  2. The collective independence level of the local board directors.

- CEO of the subsidiary: the identity and control rights scope of the CEO.

1.2 Modelling Choice
The model focus on the endogenous decision of ownership structure of the subsidiary, so I assume the following to control the other two aspects.

1.2.1 CEO: Local Managers with the Right of Implementation
The advantage of choosing local managers over expatriates:

1. Their knowledge of the local market, business practice and cultural preferences.

2. No cost of relocating.

1.2.2 Board Structure: Represent the Ownership Structure
The proportion of the local directors in the board would be exactly the proportion of the shares local investors hold, which is \((1 - \theta)\). Local directors can monitor the CEO, and the optimal monitoring level would be a function of their collective lack of independence, \(k\), and their share holdings. The parent country directors can not monitor the CEO by themselves, but they can free ride the information brought in by their local counterparts.
2 The Model

2.1 Set up

- States: with probability $q$, the state is good, project pays $R$; otherwise, the state is bad, project pays nothing.

- CEO’s payoff: CEO can transfer, $b$, from the board of directors by implementing the project regardless of the states of the world. So he/she is biased on implementing the project. But the board of directors do not want the project to be implemented when the state is bad since their payoff is negative in this case (receive nothing and have to pay $b$).

- Information: Local CEO knows the state of the world and whether he is being monitored. The local directors learn the state of the world with probability $p$ if they are willing to spend $d(p)$ on monitoring ($d(\cdot)$ is increasing and convex). The parent country directors know nothing about the state of the world in that foreign country.

- Preference of board of directors:
  1. Parent country directors receive $\theta (R - b)$ if good state and $-\theta b$ otherwise;
  2. Local directors receive $(1 - \theta)(R - b) - kd(p)$ if good state and $-(1 - \theta)b - kd(p)$ otherwise.

2.2 Timing

The timing of the model can be summarized into 3 periods:

1. The headquarter decides the shares to hold, $\theta$, considering the composition of local board directors with lack of independence level $k$, which is, by far, given and determined by local regulations on firm or the role of this subsidiary in the MNC group.

2. Given $k$ and $\theta$, local directors decide the monitoring intensity $p$.

3. CEO generates the project, then he/she observes the state of the world and the fact whether local directors knows the state or not. Based on above, the CEO will implement the project anyway if the local directors do not acquire the signal, and will implement the project only at good state if the local directors do acquire the signal.

2.3 Model

2.3.1 Local directors’ problem

Given $k$ and $\theta$,
\begin{align*}
\max_p & \left[ q \left( 1 - \theta \right) (R - b) + (1 - p) \left[ q \left( 1 - \theta \right) (R - b) - (1 - q) \left( 1 - \theta \right) b \right] - kd(p) \right] \\
F.O.C \quad & (1 - q) \left( 1 - \theta \right) b = kd'(p) \\
& \text{Define } f(\cdot) = (d'(\cdot))^{-1}(\cdot), \text{ then the optimal monitoring } p^* = f \left( \frac{(1-q)(1-\theta)b}{k} \right)
\end{align*}

**Proposition 1** The optimal monitoring level of local directors is decreasing with their collective lack of independence level, \( k \), and increasing with their shareholdings \( (1 - \theta) \). In addition, it is irrelevant with the success profit \( R \).

Intuitively, the local directors put more efforts into monitoring when they are more independent, or own larger parts of the cooperation.

### 2.3.2 Parent country directors’ problem

For simplicity, I assume the monitor disutility function \( d(p) \) takes the form of \( p^2 \), thus, \( p^* = \frac{(1-q)(1-\theta)b}{2k} \).

The parent country directors want to maximize their expected payoff

\[
\max_{\theta} q \theta (R - b) - (1 - q) (1 - p^*) \theta b
\]

The optimal condition gives us the result: \( \theta^* = \frac{(qR-b)k}{(1-q)b^2} + \frac{1}{2} \)

**Proposition 2** If \( qR > b \), \( \theta^* \) is greater than 50\%. Headquarter would hold majority of the shares if the subsidiary is profitable in expectation. Plus, the headquarter assigns less shareholdings to local investors if local directors are less independent.

Policy implication for local government: if the government want the local investors to play a more important role in the subsidiary, it can restrict the number of outside directors required in the board by writing it down in the regulation of starting cooperative firms.

## 3 Conclusion and Extension

- In the case of MNC setting up subsidiaries in developing countries: although there is a higher return of success \( qR \), the local CEO has more power to transfer money to his own account, i.e., a higher \( b \). The headquarters tend to control the subsidiaries by holding majority of the shares.
- Next step, the model could relax the exogenous assumption of \( k \) by letting the parent country directors bargain with the CEO over the independence level of the local directors.