Comments by Rafael Repullo on

Governance Through Exit and Voice: A Theory of Multiple Blockholders

Alex Edmans and Gustavo Manso

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Introduction

- Most firms have multiple small blockholders:
  - → How can this be an optimal arrangement?
  - → Splitting a block reduces intervention incentives ("voice")
  - → We should see a single large blockholder

Introduction

- Most firms have multiple small blockholders:
  - → How can this be an optimal arrangement?
  - → Splitting a block reduces intervention incentives ("voice")
  - → We should see a single large blockholder
- Trade off examined in paper
  - → Splitting a block also increases informed trading ("exit")
  - → More informative prices
  - → Higher managerial effort

Model setup

- Ownership structure (taken as given)
  - Manager holds shareholding α
  - Blockholders hold shareholding β
  - Free float (that does not play any role) is $1 - \alpha - \beta$
- Firm value

$$v = \phi \log a + \log(b_1 + ... + b_n) + \eta$$

  - Effort (and cost of effort) of manager is a
  - Effort (and cost of effort) of blockholder $i = 1, \ldots, n$ is b_i
  - $\eta \sim N(0, \sigma_\eta^2)$

Model setup

- Firm shares are traded in Kyle (1985) market
  - Manager is not allowed to trade
  - Blockholders are informed traders (know v)
  - Market maker (MM) observes effort of blockholders (b_i)
  - MM does not observe effort of manager (a) nor error η
  - Noise trader demand $\varepsilon \sim N(0, \sigma_\varepsilon^2)$

Trading game

- Each blockholder i submits market order $x_i(v)$
- MM observes order flow $y = x_1(v) + \ldots + x_n(v) + \varepsilon$
- MM sets a price $p(y) = E(v \mid y)$

Proposition 1

- Equilibrium price $p(y) = \phi \log a + \log(b_1 + ... + b_n) + \lambda y$
- Expected trading profits of each blockholder $\pi_i = \dfrac{\sigma_\eta \sigma_\varepsilon}{(n+1)\sqrt{n}}$

  → do not depend on a or b_i's

Efforts game

- Manager maximizes $\alpha E(p) - a$
- Blockholder *i* maximizes $\frac{\beta}{n} E(v) - b_i$

Proposition 2

- Manager's effort $a = \alpha\phi \frac{n}{n+1}$ → increasing in *n* → "exit"
- Blockholder *i*'s effort $b_i = \frac{\beta}{n^2}$ → decreasing in *n* → "voice"

Sketch of proof

- Manager's problem

$$\max_a \alpha\left[\phi \log a^* + \log \sum b_i + \lambda E\left(\sum x_i(v)\right)\right] - a$$

↑

Equilibrium value

where

$$x_i(v) = \frac{1}{\lambda(n+1)}\left[\phi \log a + \log \sum b_i + \eta - \phi \log a^* - \log \sum b_i\right]$$

↑

Actual value

Sketch of proof

- Manager's problem

$$\text{FOC: } \alpha\phi \frac{n}{n+1}\frac{1}{a} = 1 \;\rightarrow\; a = \alpha\phi \frac{n}{n+1}$$

- Blockholder *i*'s problem

$$\max_{b_i} \left[\frac{\beta}{n}\left(\phi \log a + \log \sum b_i\right) - b_i \right]$$

$$\text{FOC: } \frac{\beta}{n}\frac{1}{\sum b_i} = 1 \;\rightarrow\; b_i = \frac{\beta}{n^2}$$

Comment 1: Manager's objective function

- Why $\alpha E(p) - a$ and not $\alpha E(v) - a$?

  → Common assumption in literature

- What would happen with $\alpha E(v) - a$?

$$\max_a \left[\alpha \left(\phi \log a + \log \sum b_i \right) - a \right]$$

→ Effort would be $a = \alpha \phi$ (higher and independent on *n*)

Comment 2: Unobservable manager's effort

- Why is it assumed that the MM does not observe *a*?

  → Plausible, but contrast with observability of the b_i's

  → Claim that the latter is assumed for tractability

- What would happen if the MM observed *a*?

$$\max_a \left[\alpha E(p) - a\right] = \alpha\left(\phi \log a + \log \sum b_i\right) - a$$

  → Effort would be $a = \alpha\phi$ (higher and independent of *n*)

Results on number of blockholders

- Firm value maximization: $\max_n E(v) \rightarrow n^* = \phi - 1$

  → Increasing in relative productivity of managerial effort ϕ

  → What would happen if $a = \alpha\phi$? $\rightarrow n^* = 1$

  → n does not affect managerial effort a → single blockholder

- Social value maximization: $\max_n [E(v) - a - nb] \rightarrow \tilde{n}(\alpha, \beta, \phi)$

  → Decreasing in α, increasing in β and ϕ

  → What would happen if $a = \alpha\phi$? $\rightarrow \tilde{n} = 1$

Results on number of blockholders

- Blockholder value maximization:

$$\max_n [\beta E(v) - nb + n\pi] \rightarrow \hat{n}(\beta, \phi)$$

$\rightarrow$ Increasing in β and ϕ

$\rightarrow$ What would happen if $a = \alpha\phi$? $\rightarrow \hat{n} = 1$

Comment 3: Robustness of the results

- Results crucially depend on assumptions on
  - Manager's objective function (short-term concerns)
  - Unobservability of manager's effort
- Otherwise "exit" channel would not operate ("voice" → $n = 1$)

Comment 4: Initial ownership structure

- How would initial owner structure IPO?

$$\max_{(\alpha,\beta)}[\alpha E(p)+(1-\alpha)E(v)-a-nb]$$

subject to: $\alpha+\beta\leq 1$ and $n=\hat{n}(\beta,\phi)$

- Conjecture: $\alpha + \beta = 1 \rightarrow$ no free float!

Comment 5: Modeling complementarities

- More general specification of $v\left(a, \sum b_i\right)$

  → So that $\dfrac{\partial^2 v}{\partial a \partial b_i} \neq 0$

- Why not use a CES specification?

$$v\left(a, \sum b_i\right) = \left[\phi a^\sigma + (1-\phi)\left(\sum b_i\right)^\sigma\right]^{r/\sigma}$$

→ Perfect substitutes for $\sigma = 1$

→ Cobb-Douglas for $\sigma = 0$

→ Perfect complements for $\sigma = -\infty$

Comment 6: What about insider trading?

- Model assumes that blockholders trade on inside information
  - → Essential for the "exit" channel (so we can get $n > 1$)
- But insider trading legislation may prevent this trading
- Distinction between active and passive blockholders
  - → Active blockholders sit on board (and do not trade)
  - → Passive blockholders may trade (e.g. on takeover decision)
  - → See Maug (1998) and Mello and Repullo (2004)