

Incomplete Contracts

- Financial contracting
- Market incentives
- Theory of the firm

No class next Wednesday.

If the price system is so efficient, why do we have transactions occur outside the price system? (ie within firm transfer pricing.) Case 37 - Transactions costs versus management costs.

Alchian-Demsetz (1972): Where does authority come from? How is it exercised? Why do people obey it?

Oliver Williamson (71, 75, 79) - very difficult to read, "Fundamental Transformation." = ex post bilateral monopoly

Klein-Crawford-Alchian ('78) - costs of market

- relationship specific investments (hold-up problem)

i) site specificity (electricity plant near coal mine)

ii) physical asset specificity

iii) human asset specificity

iv) dedicated assets

- vertical integration as a solution to this problem

- why not long-term contracts?
 - some kind of bounded rationality with respect to not knowing about the state space. (ie founding fathers didn't know about the internet.)
 - Debel-Lipman-Rustichin "Standard State-Space Models preclude Unawareness." (E MA '98) - propose subjective state space.
 - nice paper. Not long.

Other reasons:

- Language a third-party can understand will look at implementation literature. (Maskin 77, Repullo-Moore '80)
- costs of contracting (negotiating, writing the contract) (Shovell)
- enforcement costs
- (*) What kind of things might not be contractible?

The Hold-Up Problem

- Ex post inefficiency (may apply unless Coase \checkmark hm)
- Ex ante inefficiency (in the case of ex ante investments.)

- B (buyer), S (seller)
- $t \in \{0, 1, 2\}$
- B makes an investment i
 - leads to revenue $R(i)$ with $R'(i) > 0, R''(i) < 0$
- Suppose B needs an input (a "widget") from S.
 - costs c to produce
- Assume $R(i) \geq c \quad \forall i$
- No discounting, symmetric info

FB:

$$\max_i R(i) - c - i \Rightarrow R'(i^{FB}) = 1$$

Second-Best:

Suppose Nash bargaining leads to $p = \frac{R(i) + c}{2}$

- get $\alpha \cdot$ GFT + outside option for one person
- and $(1-\alpha) \cdot$ GFT + outside option for the other.

GFT at time 2: $R(i) - c$ (i is sunk at $t=2$)

$$\begin{aligned} \text{If } p = \frac{R(i) + c}{2}, \text{ then } S \text{ gets } p - c &= \frac{R(i) + c}{2} - c \\ &= \frac{R(i)}{2} - \frac{c}{2} \end{aligned}$$

◦ outside option here is zero.

$$B \text{ gets } R(i) - p - i = \frac{R(i)}{2} - \frac{c}{2} - i$$

$$B \text{ wants to } \max_i \frac{R(i)}{2} - \frac{c}{2} - i$$

$$\Rightarrow R'(i^{SB}) = 2 \Rightarrow i^{SB} < i^{FB}$$

◦ We can get underinvestments due to noncontractibility.

1] Long-term contract (ie at date 2, you are going to sell me the widget at a particular price.)

2] Contract on i , stipulating that buyer will choose i .^{FB}
 ◦ might be hard to verify i .

3] allocate the bargaining power.

- give it all to the buyer, so they internalize everything.
- what does it mean to allocate bargaining power?

4] Reputation

5] Vertical integration

Grossman-Hart JPE '86 - Residual control rights.

(*) Read this paper at some point.

- what does it mean to own an asset?
- can exclude. In disagreement, owner prevails