

Lecture XIV: Williamson – Chapter 7: Credible Commitments – Unilateral Applications

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Readings for next time

Contracting and Credible Commitments

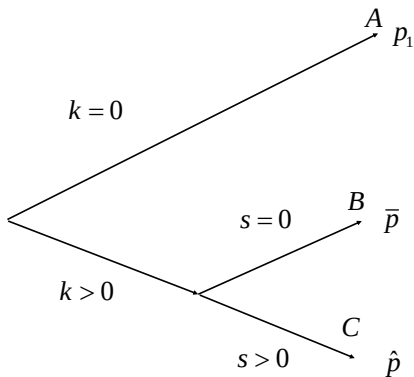
Readings for next time

- ▶ Williamson, O.E. 1985. *The Economic Institutions of Capitalism*, Free Press – Chapters 7.

Contracting and Credible Commitments

- ▶ Again, we could conceptualize credible commitments within a legal framework – if you do not deliver I will take you to court and win.
 - ▶ The downside is that this is expensive and typically does not happen.
- ▶ The idea is then to derive a self-enforcing contract.
 - ▶ One example of a self-enforcing contract is the earnest money offered by the buyer of a house. When I bid on my house I put up \$2,000. If the buyer accepted my bid they accepted the \$2,000. If I backed out, the seller was compensated \$2,000 for the time they put trying to complete the contract.
 - ▶ In terms of our current discussion – I gave a hostage.
 - ▶ Going back to Lecture 10 – Figure 2, we want to create a safeguard.

Safeguards



Two Technologies

- ▶ Assume that an input could be produced using two possible technologies:
 - a. T_1 : A general purpose technology that produces an acceptable input that implies a higher cost of production v_1 , and
 - b. T_2 : A special purpose technology cost k per unit which produces a more tailored input with a lower cost of production v_2 .

- ▶ In the most interesting case, the tailored technology is less expensive – $v_2 + k < v_1$.
- ▶ The simplest scenario for discussion is the case where the first firm produces the item and the second firm merely markets the item.
- ▶ A little razzle-dazzle. Let v_1 be a random variable – the expected price of buying the unspecialized product.
 - ▶ The probability of making money from the product is then $1 - v_1$.
 - ▶ The mean benefit from making money is then $(1 - v_1)/2$.
 - ▶ The expected profits is then

$$b_1 = p[\pi] \times \frac{1 - v_1}{2} = \frac{(1 - v_1)(1 - v_1)}{2} = \frac{(1 - v_1)^2}{2} \quad (1)$$

- ▶ By similar derivation, the expected benefits from T_2 are

$$b_2 = p[\pi] \times \frac{1 - v_2}{2} - k = \frac{(1 - v_2)^2}{2} - k \quad (2)$$

- ▶ The specific asset is purchased if

$$k < \frac{(1 - v_2)^2}{2} - \frac{(1 - v_1)^2}{2} \quad (3)$$

- ▶ Efficient contracting then replicate the conditions where the specific asset is selected according to the result in Equation 3 and the produce is produced and sold if the price is greater than v_2 .

- ▶ Consider three contracting alternatives:
 1. The buyer purchases specific assets and assigns them to whichever seller submits the lowest bid, $\bar{p}$.
 2. The producer makes the specific asset investment himself and receives a payment of $\bar{p}$ in the second period if the buyer confirms the order but nothing otherwise.
 3. The producer makes the specific asset investment himself and receives $\hat{p}$ from the buyer if the buyer confirms the order, is paid αh , $0 \leq \alpha \leq 1$, if the order is canceled while the buyer pays $\hat{p}$ upon taking delivery and experiences a reduction in wealth of h if second period delivery is canceled.

- ▶ In the third scenario the buyer posts a hostage that he values in the amount h . The producer values this hostage at αh .
- ▶ The attention will be focused on contracts II and III.

1. The buyer will confirm the order under contract II whenever the price exceeds $\bar{p}$. The producer will break even if

$$(1 - \bar{p}) \bar{p} - [(1 - \bar{p}) v_2 + k] = 0, \text{ where} \quad (4)$$
$$\bar{p} = v_2 + \frac{k}{1 - \bar{p}}$$

If $\bar{p} \geq v_1$, the buyer is better off to pay the hostage and purchase the input on the market.

- ▶ The buyer will confirm the order under contract II whenever the price exceeds $\hat{p} - h$. Let $\hat{p} - h = m$.
- ▶ The seller breaks even if

$$(1 - m) \hat{p} + m\alpha h - [(1 - m) v_2 + k] = 0 \quad (5)$$
$$\hat{p} = v_2 + \frac{k - m\alpha h}{1 - m}.$$

The buyer's net benefits under the contract are

$$b_3 = (1 - m) \left[m + \frac{1 - m}{2} - \hat{p} \right] - mh \quad (6)$$