



ECO 650: Bargaining - Exercices

1 Exercise 1: Bargaining power within a chain of monopolies

Assumptions:

A manufacturer produces a good at a unit cost c . A retailer faces a demand $D(p) = 1 - p$. The game is as follows:

1. The manufacturer and the retailer bargain over a two-part tariff contract (w, F) ;
2. The retailer sets a final price p to consumers.

Questions:

1. Given the contract (w, F) , determine the optimal price set by the retailer in stage 2. Determine the stage-2 equilibrium profits of firms $\pi_U(w) + F$ and $\pi_D(w) - F$.

2. Write down the Nash program and determine the optimal contract (w, F) . Is it efficient?

2 Exercise 2: Buyer size and buyer power

Assumptions: A manufacturer U produces a good at a unit cost $C(Q)$, with $C'(Q) > 0$ and $C''(Q) > 0$. Two retailers D_1 and D_2 are active on separate markets and each faces an inverse demand $P(Q)$ with $P'(Q) < 0$. The two retailers must buy from the manufacturer to offer the product to consumers. We consider the following one-stage game: Each manufacturer-retailer pair bargains simultaneously and secretly over a quantity forcing contract (q, F) ;

Use $P(Q) = 1 - Q$ and $C(Q) = \frac{Q^2}{2}$ for numerical application.

Questions:

1. Determine the optimal contracts (q_1, F_1) and (q_2, F_2) . Compute the equilibrium profit of each firm
2. D_1 and D_2 merge and the new entity bargain with U over a new contract (q, F) . Determine the new equilibrium profits.
3. Compare the profits obtained in (1) and (2) and comment.