

Economics 380: Suggested Solutions 1

17 January, 2004

1. Haagen Dazs analysis:

- (a) Substitutes: Premium and Standard Ice Cream, Other Desserts and Snacks.
- (b) Buyers: Supermarkets, Corner stores, Direct sales to individuals. Bargaining power: Moderate.
- (c) Suppliers: Milk board, Packaging, Sugar. Bargaining power: Moderate.
- (d) Rivals: Ben & Jerry's, Dreyer's. Rivalry: Loose Oligopoly with competitive fringe. Competition relaxed.
- (e) Entrants: Other makers of desserts and sweets, health foods.
- (f) Compliments: Hot fudge sauce.

2. Bargaining between Ford and Hunts.

- (a) Nash bargaining implies a price of \$150. Both make profits \$5,000.
- (b) If Hunts invest in the Wundermaschine the price will be \$125. Both firms make profits \$7,500. The Wundermaschine costs \$3000, so Hunts should not invest.
- (c) Before the Wundermaschine is bought the total surplus is \$20,000-\$5,000-\$3,000=\$12,000. Both should therefore get \$6,000 using Nash bargaining. This implies a price of \$140.

3. (a) Denote the dealer's reservation value by r . If you offer a price p the firm accepts if $p \geq r$. Your expected utility is

$$(15,000 - p) \frac{p - 15,000}{5,000}$$

for $15,000 \geq p \geq 10,000$. This is maximised at $p^* = 12,500$. Intuitively by lowering the price you reduce the probability you buy the car, but increase your utility when you buy the car.

(b) If your value is 20,000 then your expected utility is

$$(20,000 - p) \frac{p - 15,000}{5,000}$$

This is maximised at $p^* = 15,000$.

- (c) Again you should offer $p^* = 15,000$. Why offer anything higher than this?
- (d) By making a second, lower, offer you increase the chance of gaining the car. However, if the dealer anticipates you will make a second, lower, offer they will never accept the first. Hence it is very useful if you can commit to only making one offer.

4. (a) Horizontal. (b) Vertical. (c) Vertical. (d) Horizontal.