

# ECO 650: Firms' Strategies and Markets

## Course 1: Multiproduct firms' pricing strategies

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September 20, 2017



## Exercise 2

Food for life makes health food for active, outdoor people. They sell 3 basics products (Whey powder, high protein Strenight bar, a meal additive(Sawdust))

Consumers fall into two types:

Consumers	Whey	Strenight	Sawdust
Type A	10	16	2
Type B	3	10	13

**Question:** Each product costs 3 to produce and the bundle of 3 products costs 9. What is the best pricing strategy for the firm? Separate selling, Pure bundling (only bundles of 3 products must be considered)? or mixed bundling?

The firm cannot discriminate among consumers. We assume there is 1 consumer of each type (A and B) and he wants one unit of each product.

**Separate selling:** for each product, the firm must choose either to sell the product at high price only to one type of consumers or at a lower price to the two types.

- ▶ **Whey:**  $(10-3) > 2(3-3) \rightarrow p^W = 10$  and  $\pi^W = 7$ .
- ▶ **Strenght:**  $(16-3) < 2(10-3) \rightarrow p^{St} = 10$  and  $\pi^{St} = 14$ .
- ▶ **Sawdust:**  $(13-3) > 2(2-3) \rightarrow p^{Sa} = 13$  and  $\pi^{Saw} = 10$ .
- ▶ Total profit with separate selling strategy is  $7 + 14 + 10 = 31$ .

**Pure bundling:** Highest price for type A: 28! Highest price for type B: 26!

$$2(26 - 9) > (28 - 9)$$

The best price for the bundle is 26 and the profit with a pure bundling strategy is:  $34 > 31$

**Mixed bundling:** Highest price for the bundle is 28! Mixed bundling may enable to raise the price of the bundle without losing entirely type B consumers. The firm sets  $p = 28$  and as type A consumers have no surplus, separate prices for each good must be such that:

$$p^W \geq 10, p^{St} \geq 16, p^{Sa} \geq 2.$$

Under this constraint, the best prices the firm can offer are:

$$p^W = 10, p^{St} = 16, p^{Sa} = 13.$$

Type A buys the bundle and Type B only buy Sawdust. Total profit with mixed bundling is

$$(28 - 9) + (13 - 3) = 29 < 34!$$