3-4: Advertising

Economists differ in their view on the role of advertising. In general, there are two broad views:

- Advertising conveys important information, thereby helping consumers make better decisions. In this case, advertising is socially beneficial.
- Advertising persuades by changing consumer preferences. In this case, advertising may be wasteful.

If advertising were mainly informative, we would expect to see it used mostly for search goods. Empirical evidence, however, seems to indicate that advertising intensity is higher for experience goods. This observation would support a view that advertising is mainly persuasive.

Advertising Intensity and the Dorfman-Steiner conditions:

- Advertising intensity is typically measured as advertising expenditures as a percentage of total revenue.
- The Dorfman-Steiner conditions are derived from the optimality conditions for advertising expenditures, and indicate that advertising intensity is a function of advertising elasticity and price elasticity of demand.

Types of Advertising

- **Informative**

  Benham (1972) found that prices for prescription eyeglasses were lower in states that allowed advertising than in states that prohibited it.

  If advertising is informative, it improves economic efficiency.

- **Persuasive**

  Intended to shift the utility functions of customers, thus shifting demand curves in favor of the good being advertised.

  If advertising is merely persuasive, its welfare implications are less clear.

Advertising Intensity

Advertising Intensity,

$$\frac{\tau * S}{p * Q} = \frac{\eta_S}{\varepsilon_d}$$

Some empirical estimates:

Toyota (automotive)	3.0%
Disney (entertainment)	8.7%
Pfizer (pharmaceuticals)	12.4%
McDonalds (fast food)	24.6%

Advertising Intensity

To analyze the firm's optimum level of advertising, modify the inverse demand and cost functions to incorporate advertising, S:

$p(q,S)$, where S is the amount of advertising

$c(q,S) = cq + \tau S$, where τ is the unit cost of advertising

This implies that there are two optimality conditions:

$$MR_q = MC_q$$
$$MR_S = MC_S$$

From this we can derive the Dorfman-Steiner conditions, which says that advertising intensity is a direct function of the Advertising elasticity of demand and an inverse function of price elasticity of demand:

$$\frac{\tau * S}{p * Q} = \frac{\eta_S}{\varepsilon_d}$$

Advertising Intensity

	Shopping Goods ▪ *Relatively expensive* ▪ *Infrequently purchased*	**Convenience Goods** ▪ *Relatively inexpensive* ▪ *Frequently purchased*
Search Goods *Quality may be ascertained **before** purchase*	**Low η_S** Personal computers Automobiles Appliances	Gasoline Detergent Airline travel
Experience Goods *Quality may be ascertained only **after** purchase*	Wine Restaurant meals Consulting services	Fresh produce Movies Books **High η_S**

$\eta_S \equiv$ Output elasticity of Advertising

Relevant exercises: Problem Set 3, exercise 5.