

International Business and Finance

Week 2 Seminar 4

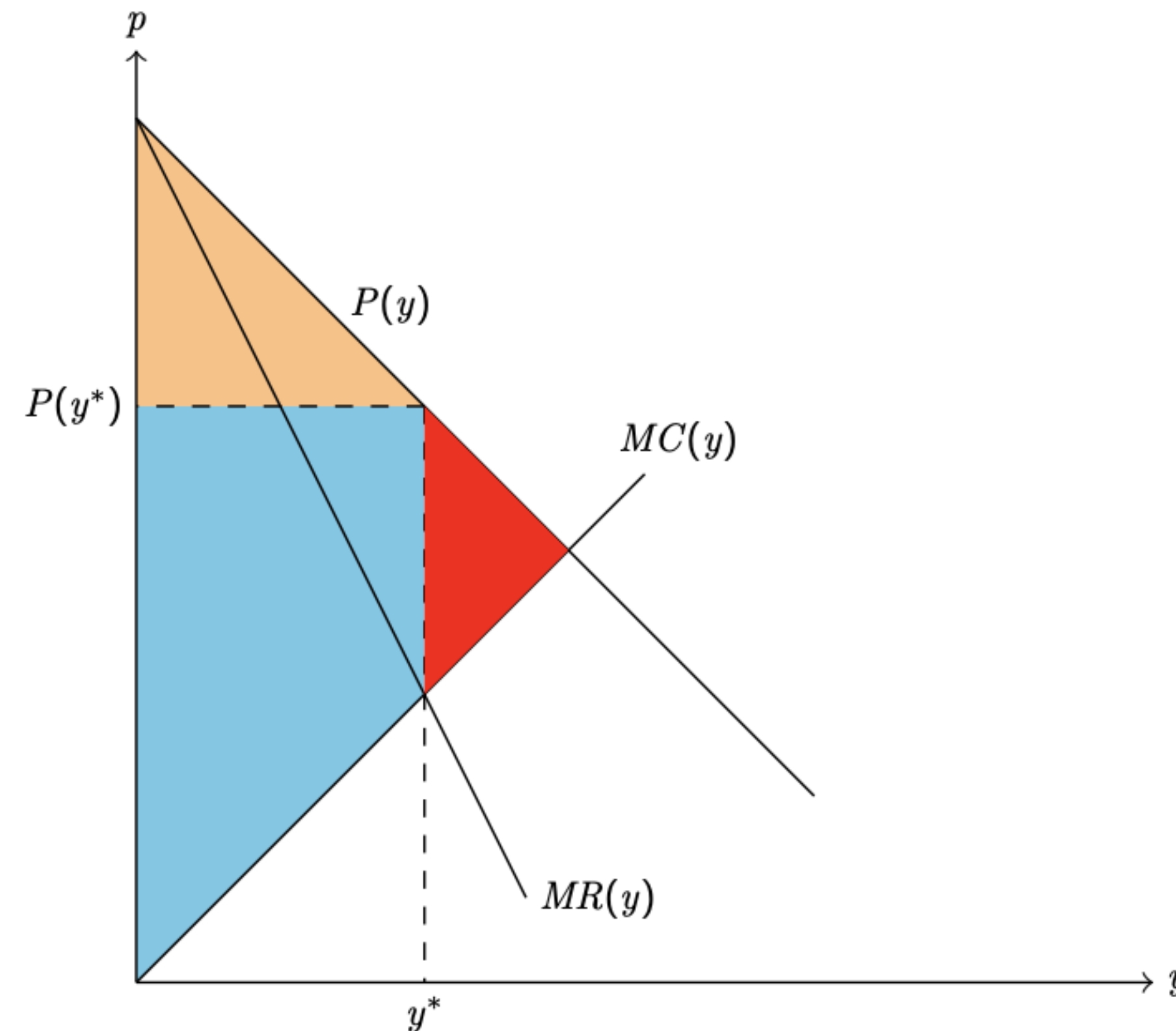
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Market Structure

	No. of firms	Entry conditions	Product differentiation
Perfect competition	Many	Free entry	Identical products
Imperfect competition			
Monopolistic competition	Many	Free entry	Some differentiation
Oligopoly	Few	Barriers to entry	Some differentiation
Monopoly	One	No entry	Complete differentiation

Monopoly

- ▶ Unlike competitive firms which take market price as given, a monopolist has its power to determine what the price of its product is.
- ▶ A monopolist's price is higher than its marginal cost.
 - ▶ Illustration of deadweight loss of welfare (red area):



Price Discrimination

- ▶ What is **Price Discrimination**?
 - ▶ Charging different prices to different customers **for the same product**.
 - ▶ A strategy to **capture consumer surplus** and **maximize profit**.
- ▶ **Conditions** for Price Discrimination
 - ▶ Market power (firm must be a price setter).
 - ▶ Ability to segment the market.
 - ▶ No (or limited) resale between customer segments.

Price Discrimination

▶ **First-Degree Price Discrimination (Perfect)**

- ▶ If the monopolist is able to:
 - perfectly identify consumers
 - treat each consumer individually
- ▶ How: Charging **each consumer** her **maximum willing to pay**
- ▶ Extract **all consumer surplus**
- ▶ **However**, it is hard (if not impossible) for the firm:
 - to know exactly each consumer's preference (or equivalently demand curve).
 - to prevent consumers from trading with each other in many markets.
- ▶ Examples: auctions, personal pricing online

▶ **Third-Degree Price Discrimination**

- ▶ Market is segmented by **observable characteristics** (e.g. age, gender).
- ▶ How: Charging **each group** a different price
- ▶ Examples: student/senior discount, age-based insurance policies

Price Discrimination

▶ **Second-Degree Price Discrimination**

- ▶ What happens if the monopolist **cannot** identify **individual consumers** or **segment the market**?
- ▶ How: Charging **different prices** based on **the quantity consumed** or **the version of the product**
- ▶ Mechanism
 - The firm offers a **menu of pricing options**, allowing consumers to **self-select**.
 - Designed to **induce consumers to reveal their preferences** through their choices.
- ▶ Examples:
 - Quantity: bulk discounts, charges for electricity/phone service
 - Quality (version): first/business/economy class, different insurance plan

Questions

10. Imagine a street with three coffee shops: Café A, Café B, and Café C.

- ▶ Cafés A and B both serve similar-quality espresso drinks, but Café A has a more spacious interior and co-working space.
- ▶ Café C specialises in organic teas and only a limited selection of espresso drinks.
- ▶ All cafés charge similar prices.

a) Using **Hotelling's location model**, explain how the relative positioning of these cafés affects consumer choice.

b) How would **Salop's circular model** be more appropriate in this context if there were more cafés spread around a busy city district?

c) Describe how each of the three cafés could use **strategic product differentiation** to increase their market share without changing prices.

Questions

a) Using **Hotelling's location model**, explain how the relative positioning of these cafés affects consumer choice.

▶ **Model Concept:**

Hotelling's model assumes firms (or products) are located along a straight line, and consumers choose the one **closest to their preferences** (or physical location), factoring in travel costs or inconvenience.

▶ Cafés A and B serve **similar products (espresso)**, so they are located **close to each other** in the “product space” in Hotelling's model. As they are **close substitutes**, small changes (e.g., faster service, better ambiance) could shift customers between them.

▶ Café C specializes in **organic teas**, placing it further along the product line (different product category – tea). Café C is more differentiated, so it has **fewer direct competitors** and may lose fewer customers even if prices shift slightly.

▶ This reflects **local competition**: A and B battle over the same segment, while C competes more distantly.

Questions

b) How would **Salop's circular model** be more appropriate in this context if there were more cafés spread around a busy city district?

▶ **Model Concept:**

Salop's model places firms on a **circle** to eliminate edge effects. Consumers are **uniformly distributed** and choose the firm "closest" to their preferences around the circle.

▶ Salop's circular model fits better if many cafés exist across a city. In an urban setting with many cafés (not just A, B, and C), consumers have **varied tastes**: vegan options, pet-friendly, study-focused, artisanal, fast-service, etc. The "circle" represents **diverse consumer preferences**.

▶ **Each café has a segment of nearby consumers.** Competition becomes localised—each café attracts those nearest in preference space (e.g., students preferring a study café, or health-conscious customers preferring organic options).

Questions

c) Describe how each of the three cafés could use **strategic product differentiation** to increase their market share without changing prices.

- ▶ Examples of strategic differentiation:
 - ▶ Café A could highlight its co-working space and free Wi-Fi, appealing to remote workers.
 - ▶ Café B could focus on loyalty programmes and express takeaway service.
 - ▶ Café C could enhance its organic and wellness brand, e.g., launching superfood drinks or gluten-free pastries.
- ▶ All of these increase product appeal without price changes by **altering perceived value** or **targeting niche preferences**.

Questions

11. A new coffee brand, GreenBean, enters a market where established brands already advertise heavily. The firm is considering two strategies:

- (i) Invest heavily in brand advertising to signal quality
- (ii) Offer price discounts and word-of-mouth campaigns instead.

a) What is the likely role of advertising in helping GreenBean differentiate its product in a monopolistically competitive market?

b) Suppose GreenBean has low brand awareness and a small initial customer base. According to the advertising response function, what challenges might it face, and how could it strategically overcome them?

Questions

- a) What is the likely role of advertising in helping GreenBean differentiate its product in a monopolistically competitive market?
- ▶ Advertising allows GreenBean to create **strategic product differentiation**, convincing consumers that its coffee is distinct, even if the core product is similar to competitors.
 - ▶ This creates **brand identity** and potential **loyalty**, key features in monopolistic competition.

Questions

b) Suppose GreenBean has low brand awareness and a small initial customer base. According to the advertising response function, what challenges might it face, and how could it strategically overcome them?

- ▶ GreenBean likely faces:
 - ▶ A **threshold** effect: Advertising must reach a **minimum level** before influencing sales.
 - ▶ Risk of **underinvestment**, where small campaigns have no effect.
- ▶ To overcome:
 - ▶ Combine advertising with **targeted promotions** or partnerships to build recognition.
 - ▶ Focus on **social proof** (reviews, influencer endorsements) to amplify reach without incurring massive upfront costs.

Questions

12. Trainline Ltd. offers train tickets in the UK and uses dynamic pricing and promotional offers.

- ▶ Standard adult tickets are priced at £40.
- ▶ Students with a valid railcard pay £25.
- ▶ Customers booking online 30 days in advance pay £20.
- ▶ Walk-in customers on the day of travel are charged £45.

a) Identify **which types of price discrimination** are being used in the examples above. Link each pricing strategy to one of the three degrees of discrimination.

b) Explain the **conditions** that allow Trainline Ltd. to apply these forms of discrimination successfully. In your answer, consider **market power**, **consumer groups**, and **resale limitations**.

Questions

a) Identify **which types of price discrimination** are being used in the examples above. Link each pricing strategy to one of the three degrees of discrimination.

- ▶ Student discount (£25) → **Third-degree** (by observable group: students)
- ▶ Early-bird online (£20) → **Second-degree** (based on booking time = versioning)
- ▶ Day-of-travel fare (£45) → **Second-degree** (late purchase implies higher willingness to pay)

Questions

b) Explain the **conditions** that allow Trainline Ltd. to apply these forms of discrimination successfully. In your answer, consider **market power**, **consumer groups**, and **resale limitations**.

- ▶ Trainline Ltd. can implement price discrimination because:
 - ▶ It has **market power** over train services on specific routes.
 - ▶ It can **segment the market** by observable characteristics (student ID, booking date).
 - ▶ **Resale is not feasible**: Train tickets are non-transferable, often tied to ID or timestamp, preventing arbitrage between consumer groups.

Questions

13. You are a pricing analyst at a consumer electronics firm that is launching a new **smart wearable device**. The product is expected to follow a standard **4-stage product life cycle**, as shown in the diagram (Launch → Growth → Maturity → Decline). Your task is to propose a **pricing and advertising strategy** across each stage that **maximises long-run profitability**, based on economic principles.

a) For each of the four life cycle stages, complete the table below with your proposed **pricing strategy** (e.g., skimming, penetration, cost-plus, dynamic, bundle) and a brief **economic justification**.

Stage	Proposed Pricing Strategy	Economic Justification
Launch		
Growth		
Maturity		
Decline		

b) Advertising effectiveness changes over the product life cycle. Using the concept of **advertising response functions**, explain:

- ▶ At which stage advertising has the **highest marginal return**
- ▶ When **oversaturation** may occur
- ▶ How the incumbent vs. entrant firm's position matters for advertising spend

c) Your firm is deciding whether to **extend the maturity phase** by launching minor upgrades or let the product decline naturally. Using economic reasoning, outline **two benefits** and **one risk** of attempting to prolong the product's maturity.

Questions

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Maturity		
Decline		

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Maturity	Penetration or bundle pricing	Competition is intense, demand plateaus — use lower prices to maintain market share and bundle with services.
Decline		

Questions

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Maturity	Penetration or bundle pricing	Competition is intense, demand plateaus — use lower prices to maintain market share and bundle with services.
Decline	Cost-plus or markdown pricing	Declining demand, price-sensitive consumers — goal is to clear inventory and retain residual market.

Questions

b) Advertising effectiveness changes over the product life cycle. Using the concept of **advertising response functions**, explain:

- ▶ At which stage advertising has the **highest marginal return**
 - ▶ When **oversaturation** may occur
 - ▶ How the incumbent vs. entrant firm's position matters for advertising spend
-
- ▶ **Highest marginal return:** During **Launch** and **early Growth**, when awareness is low and market penetration yields high demand response.
 - ▶ **Oversaturation risk:** In **Maturity**, heavy ad spending may yield diminishing returns or even backlash (as shown in the advertising response function).
 - ▶ **Incumbents** benefit from brand recognition and can spend less per marginal customer; **entrants** must overcome threshold effects and spend more to establish recognition.

Questions

c) Your firm is deciding whether to **extend the maturity phase** by launching minor upgrades or let the product decline naturally. Using economic reasoning, outline **two benefits** and **one risk** of attempting to prolong the product's maturity.

▶ **Benefits of extending maturity:**

- ▶ 1. **Higher cumulative revenue:** Keeps sales stable without launching a new product line.
- ▶ 2. **Exploits brand equity:** Upgrades can be marketed using existing brand loyalty and channels.

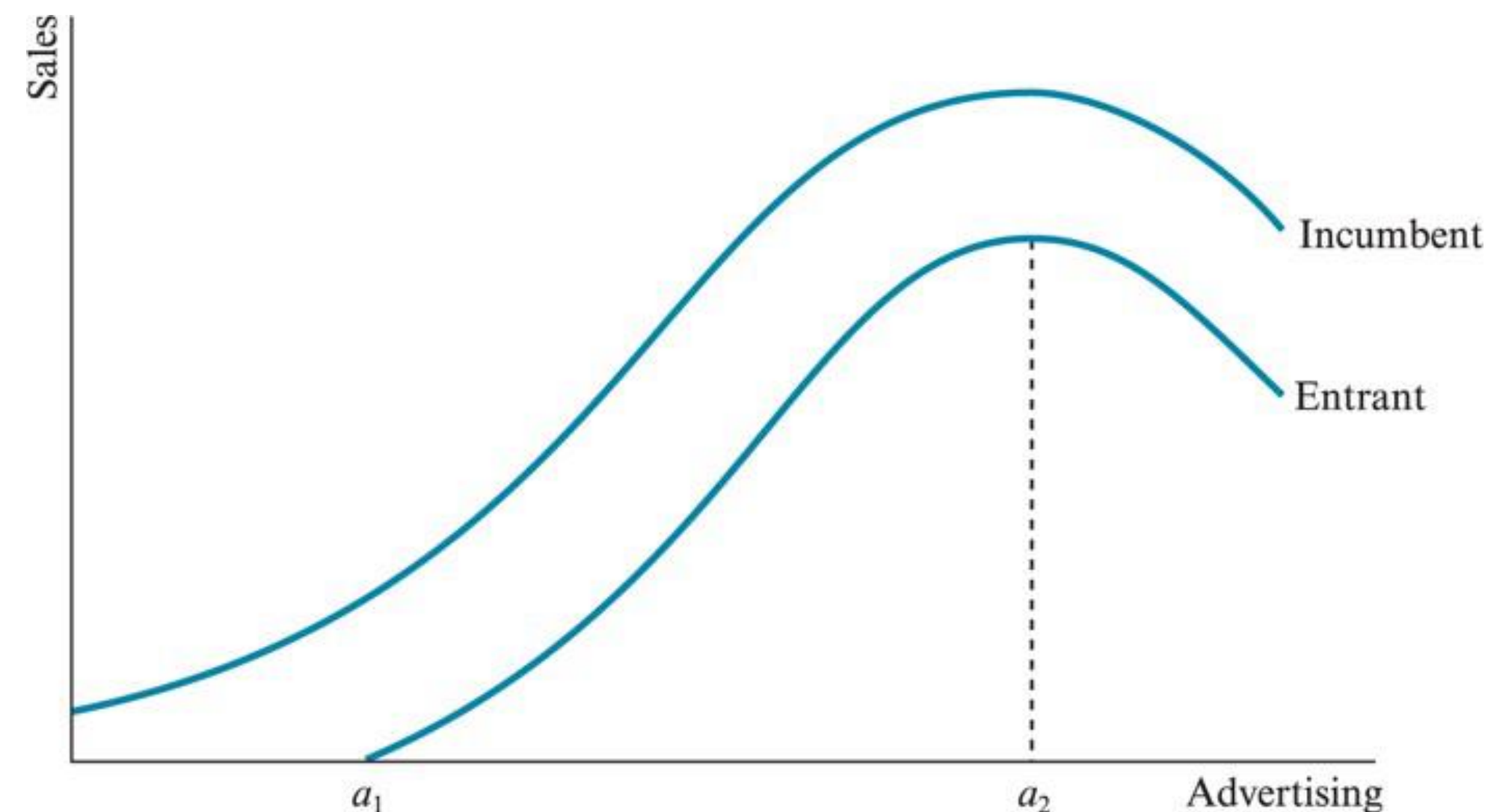
▶ **Risk:**

- ▶ **Consumer fatigue:** Incremental upgrades may reduce willingness to pay for future products and devalue brand prestige.

Questions

1. In what ways might a heavy advertising campaign by an incumbent firm raise barriers to entry? Illustrate your answer by drawing possible advertising response functions for an incumbent and an entrant.

- ▶ Advertising increases the costs of production.
- ▶ High levels of advertising build up a reputation.
- ▶ Brand reputation can also serve as a barrier to entry by limiting the market space available to new entrants.



4. Explain the methodological difference between representative consumer models and spatial or location models of product differentiation.

- ▶ In representative consumer models, consumers have tastes or preferences for goods or services, and firms compete to attract consumers by **differentiating the goods or services** they offer.
- ▶ In spatial or location models, consumers have tastes or preferences for **the product characteristics** that are embodied in goods or services.

7. What conditions must be satisfied for a producer to be able to implement a policy of price discrimination?

- ▶ The price discriminating firm must enjoy some degree of **market power** so that it has the discretion to choose its own prices. The market for the product must be divisible into submarkets, within which there are **different demand conditions** (or different price elasticities of demand). These submarkets must be physically separate through either space or time so that secondary trade or **resale between consumers in different sub-markets is not possible**.