Essay Question 6: 2013 RJC Prelim Essay Q3

The UK Rail industry is split into franchises, in which companies are invited to bid for the rights to operate individual rail routes for a specified time period. Train operators typically sell their tickets at a lower price if they are bought in advance on the internet, and they offer both first class and economy class tickets.

(a) Explain whether the above pricing policies could be considered to be examples of price discrimination. [10]

(b) Discuss whether the UK government should regulate prices in the rail industry to protect society's interests. [15]

(a)

Introduction

Price discrimination occurs when a firm sells the same product to different groups of consumers at different prices when the price difference cannot be explained by differences in the cost of production. It aims to increase the total revenue and thus profits for the firm compared to charging goods at a uniformed price.

Body

(A) Explain whether the context fits into the 3 conditions for price discrimination to work

Train operator selling tickets at a lower price if they are bought in advance

Identify that this is 3rd degree price discrimination: Charging different prices for the same good to different groups of consumers for reasons not associated with cost differences

No significant difference in costs

Cost of providing the train ticket and cost of train travel is the same regardless of time of purchase

Elaborate on the conditions for Price Discrimination to work	**Apply to context**
1. The firm must have monopoly power (not necessary a monopoly) - the ability to set prices. A producer wishing to practise price discrimination must have a degree of monopoly power so that consumers who are charged discriminatory prices <u>cannot turn to an alternative supplier who might offer lower prices</u>.	Train operators are price setters: Each train operator acts as a monopoly for its own individual rail routes
2. The markets can be segregated and resale should not be possible between sub-markets. The firm must be able to segregate the market into separate and identifiable groups to prevent seepage between markets. That is, it is impossible or prohibitively costly for consumers to buy the lower-priced ticket and sell it in the higher-priced market.	Time of purchase can be used by the train operator to segment consumers Train tickets if bought in advance can only be collected with the credit card used for purchase and there is a possibility of names printed on the tickets.
3. There exists different PED in the different sub-markets with different willingness to pay.	Lower ticket prices for consumers who buy their train tickets earlier as they have a more price

The ability to segregate the markets according to different price elasticities of demand. These groups may be separated by transport costs, geographical boundaries, age group and etc. Price discrimination will only make economic sense if the market segments have different price elasticities of demand. **To increase total revenue, a higher price will be charged when demand is price inelastic (quantity will fall less than proportionate than price) and a lower price for demand that is price elastic (quantity will increase more than proportionate).**	elastic demand. This is because they have not fixed their travel plans yet and so they have more substitutes (other travel alternatives such as coach services) to choose from. Hence, the train operator will earn higher revenue by charging these consumers a lower price as the fall in price leads to a more than proportionate increase in quantity demanded. Consumers who buy tickets nearer the travel dates are usually business travellers. They have a more price inelastic demand as they are unable to change their business appointments and so there's a high degree of necessity for them to travel at a particular date/on a particular route. This enables the train operator to charge higher prices as an increase in price leads to a less than proportionate decrease in quantity demanded, so total revenue will increase.

First class tickets and economy class tickets

First class tickets are typically sold at a higher price than economy class tickets
Highlight that this is not a case of price discrimination

Different type of good (and so demand is different)
- First class seats and economy class seats are considered to be different products by customers
- First class seats provide more leg space/provide a different degree of comfort/include food and beverage
- As a different product with a higher demand, the train operator is simply just selling a different product at a higher price and so not practising price discrimination (it is not the <u>same good</u>)

Difference in cost of production for the train operator for first class and economy class seats
- First class seats incur higher costs due to food/beverage provided or better seats/amenities
- Given the difference in cost, it is justified for the train operator to charge higher prices for the seats.

Conclusion
The charging of lower ticket prices for advance booking on on-line is a pretty straightforward example of PD.

Knowledge, Application, Understanding, Analysis		
L1	- Descriptive answer which contains little if any economics - Substantial/ lots of glaring conceptual errors throughout - Listing of points with little/no economic analysis	1 – 4
L2	- An incomplete/underdeveloped explanation of whether the above pricing policies practised by the train operator are a form of price discrimination.	5 - 7
L3	- A clear and thorough explanation of whether the above pricing policies practised by the train operators are a form of price discrimination. - Good use of economic concepts and examples pertinent to the rail industry.	8 - 10

(b)

Introduction
Price regulation in this context refers to setting a maximum price on ticket prices. Whether the government should practise either MC or AC pricing to protect society's interests shall be discussed.

Body

Thesis: The UK government should regulate prices in the rail industry to protect society's interest.

(1) Efficiency grounds/reason

Each train operator is a monopoly for the particular train route that they are operating. This leads to allocative inefficiency.

Market failure
Rail transportation is a more efficient means of transporting masses of people to work without clogging or congesting road networks. Hence, by regulating prices to keep it low and affordable, it can be a good substitute for car ownership helping to ease road congestion. Thus making more efficient use of society's scarce resources and improving society's welfare.

(2) Equity grounds (excessive profits)
Besides, when the monopolist practices price discrimination, there is a transfer of consumer surplus from consumers (poor) to the monopoly (rich) and worsens the inequity issue.

Rail transportation is an essential service/good ie common mode of public transportation for the low-income and working class. Therefore, the fares must be made affordable to the masses who use public transport on a daily basis for work and leisure travel.

Illustrate with the aid of a diagram how market dominance leads to allocative inefficiency.
Explain how MC pricing will help to protect society's interest and it leads to allocative efficiency.
Explain how AC pricing will help to protect society's interest as it achieves equity/reduce allocative inefficiency.

Anti-thesis 1: Limitations of MC and AC pricing

Explain the limitations of price regulation.
MC pricing regulation

- Shutdown of firm. MC pricing may cause the firm to shut down and leave the industry (for the context of a natural monopoly which is applicable to the context of the UK rail industry). This leads to allocative inefficiency as an essential service is not provided.
AC pricing regulation

- Lack of dynamic efficiency. AC pricing will lead to normal profits in the LR (or price regulation will reduce the profits of the monopoly) and so the train operator will not be able to conduct R&D and hence there will not be improvement in quality of rail travel in future.

- Government failure.
  Example:
  Lack of Information (e.g. MC and AC information??)
  Lack of Compliance (lax enforcement and ineffective deterrence)
  Lack of Political support (public might not support price regulation)
  Bureaucracy (red tape- corruption)
  Unintended consequences (unknowingly hurt innocent parties)
  Conflicting goals (efficiency v equity)

Anti-thesis 2: A price discriminating monopolist is beneficial to society's interests (application to UK rail industry).

- Equity. Explain how a 3rd degree price discriminating monopoly is able to allow consumers from lower income groups to consume more of the rail service at a lower price because the firm is charging a higher price to consumers in higher income groups (business travellers) and using the additional profits earned to subsidise the lower income consumers. Contrast with the case of monopolist that charges a uniform price.
- Increase R&D. The price-discriminating rail operator enjoys higher revenue and thus profits. Higher profits may benefit society if these profits are re-invested into research and development which leads to product improvement and cost reductions.
- Survival of firm. Price discriminating may be necessary for the train operator to earn the necessary profits to survive in the industry. Diagram to illustrate.
- Efficiency. Explain how a first degree price discriminating train operator (although this is highly unrealistic given the real world) is able to achieve allocative efficiency.

Conclusion:
Make a justified stand of whether the UK government should regulate prices in the rail industry based on the criteria of efficiency and equity, bearing in mind the costs of price regulation.

Yes, I support price regulation on the grounds that rail services provides an essential public transport for the masses. Therefore, it should be run efficiently and equitably for the benefit of society.

Knowledge, Application, Understanding, Analysis		
L1	- An answer without a clear economic framework and lack balance. - Points are not well developed to show an understanding of the issue. - Glaring conceptual error. - Lack understanding of price regulation: max 5m	1 – 5
L2	- For an underdeveloped discussion. - For a two sided answer with limited scope on whether the UK government should regulate prices in the rail industry.	6 - 8
L3	- For a good analytical and balanced answer. There is sufficient scope (efficiency and equity are well considered) and depth in discussion with well labelled diagrams to enhance analysis. - Good application to the UK rail industry (price discriminating firm).	9 - 11
Evaluation		
E1	An unexplained judgment → An unexplained evaluative conclusion/comment	1 - 2
E2	Evaluative assessment supported by economic analysis → Substantiation of an evaluative comment and/or conclusion	3 - 4

Essay Question 7: 2009 A levels Q2

A very popular band is due to play one concert at a 5000 capacity venue. The plan is to charge different prices according to the area in which the seat is located.

(a) Explain whether this pricing policy could be considered to be an example of price discrimination. [10]

(b) Discuss the problems that are likely to be faced in determining the prices to be charged for the seats. [15]

Paraphrase the questions + requirements of the questions: This question asks whether the given example (context) conforms to price discrimination. It would mean that you have to consider whether the 3 conditions for Price Discrimination are satisfied. You are also required to think if the concert seats are the same good and if there is any cost difference when offering them to the audience in a concert.

Dissect Question Using the 3'Cs'	
C – **C**ommand word	**Explain**: Use SEE approach **Consider**: Both sides expected: agree & 'but' argument; and come to a reasoned stand for conclusion.
C – **C**oncept (s)	Price Discrimination – Definitions, Examples of Price Discrimination and Conditions to be satisfied for Price Discrimination.
C – **C**ontext	Pricing of a popular concert's tickets (seats)

A simple schematic Plan:

INTRODUCTION	
BODY	
Is Effective Price Discrimination if	
Conditions for PD are met Monopoly Power	**Applications** Using the context of the popular concert, explain & exemplify these conditions.
Ability to Segregate Markets according to different price elasticities of demand	
No seepage	
Is not Price Discrimination – consider whether there is any cost difference and whether it is the 'same' product	
Though the cost of installing front and back row seats are the same, the goods are not homogenous in the eyes of the consumers (concert goers) as the experience/satisfaction sitting in front of a concert and the back is different.	
CONCLUSION	

INTRODUCTION

Key Words	Price discrimination is the practice of charging different prices for the **same product or different units** of it when such price differences **do not result from differences in cost.**
Issue & **A**pproach	In this essay, I shall explain whether charging different prices for different seats in a concert is an example of price discrimination. If the product/service is indeed the same and it is not a result of different costs & if the conditions for price discrimination are satisfied, this practice is considered an effective price discrimination.

BODY

Charging of different prices is Price Discrimination

<table>
<tr><td colspan="2">It could be an example of an effective price discrimination because it fulfills the conditions of price discrimination.</td></tr>
<tr><td>Theory</td><td>Application</td></tr>
<tr><td>Monopoly power (<u>NOT NECESSARILY A MONOPOLY):</u>
A producer wishing to practise price discrimination must have a degree of monopoly power so that consumers who are charged discriminatory prices <u>cannot turn to an alternative supplier who might offer lower prices</u>.</td><td>The music production company that organizes the concert has monopoly power – fans cannot turn to other companies to obtain the tickets to the concert of their favorite band.</td></tr>
<tr><td>Ability to segregate the market
The ability to segregate the markets according to different price elasticities of demand.
These groups may be separated by transport costs, geographical boundaries, age group and etc.

Price discrimination will only make economic sense if the segregated market (sub-markets) have different price elasticities of demand. To increase total revenue, a higher price will be charged when demand is price inelastic and a lower price for demand that is price elastic.</td><td>The seats are marked and separated hence there is clear segregation for the different seats.

Those who buy seats with better view are those with higher income (the price is an insignificant proportion to their income) or are fans of the popular band in which they will be willing to pay anything to see their idols.

Both groups have price inelastic demand and thus not responsive to high price and thus the music company can charge them higher price and earn more revenue from them.

The nearer the seats are to the stage, the higher the prices. The group of people who would buy front row seats are those who must be big fans of the band. Hence their demand is very price inelastic, as there are hardly any alternatives to those seats. They would not even consider seats further up to be a substitute. Hence if price increases, the fall in quantity demanded of seats would be negligible.

Those who settle for middle or back row seats are those who may not be such great fans of the band. Hence they face more alternatives, such as other seats or going to another concert.</td></tr>
<tr><td>Prevent Seepage
The monopolist must be able to segregate the market into separate and identifiable groups to prevent seepage between markets. That is, it is impossible or prohibitively costly for consumers to buy the lower-priced ticket and sell it in the higher-priced market.</td><td>There is no seepage as those consumers who want a better view of the concert will not be attracted to buy cheaper tickets of rear seats. There is no point getting a cheaper ticket and ends up seated far from the stage.

Note: Those who bought the tickets from the organizer and then resold to others who couldn't get the tickets means a black market exists. But this is not seepage.</td></tr>
<tr><td colspan="2">The marginal cost of installing front row seats and back row seats are the same and this is a case of 3rd degree Price Discrimination. [Diagram to illustrate 3rd degree PD, if time allows.]</td></tr>
</table>

May not be a genuine case of PD **However,** the view is not homogeneous. Front row seats allow the fans to get close to the action on the stage. The sound is better too. Even though those in the back rows can still enjoy the action via projectors and good sound systems, the quality of experience is much lower. Hence this contradicts the assumption of price discrimination that the good/service sold must be the same.
CONCLUSION
A popular concert would have many fans who are eager to come close to see their idols, hence their perception of the front and back seats will not be the same. Therefore this pricing policy could not be considered to be an example of price discrimination since seats with better view are not the same as those rear seats and thus warrant a higher price.

(b) Discuss the problems that are likely to be faced in determining the prices to be charged for the seats. [15]

This question requires you to consider the problems which the organizers might face in setting prices for the concert tickets. We assume that organizers are assumed to be profit maximisers. If so, then they should set price where output corresponds to MC = MR where MC is rising. The information which the organizers will require would be pertaining to MC and MR.

Some practical questions you should ask yourself while attempting this question:

- How does the organizer know what price to charge to maximize profit? (MC=MR)
- How does the organizer know the different elasticities of the different types of audience? How does he know exactly which block of seats to be marked and separated by the elasticities?

Dissect Question Using the 3'Cs'	
C – **C**ommand word	Discuss: Thesis/anti-thesis expected; evaluation expected; conclusion with reasoned judgment expected.
C – **C**oncept (s)	Pricing Setting
C – **C**ontext	Pricing of a popular concert's tickets (seats)

A simple schematic Plan:

INTRODUCTION
BODY
2 basic information required to determine Prices • **Cost** • **Revenue (expected)** **Issue : Which problem is LIKELY to be faced…**

Thesis: Information on expected revenue + focus on problems to be faced
Difficulties in determining demand curve precisely
- Lacking in knowledge about demand and MR
- Information of demand often changes over time

Difficulties related to 3rd degree price discrimination.
- The difficulties in determining the price elasticities accurately and marking the different seats.

Anti-Thesis : Information on cost + focus on problems to be faced
Difficulties in determining costs
- Explicit & Implicit costs – the latter is more difficult to calculate
- To consider explicit costs predominately and in this case, it should have less difficulty in determining MC.

CONCLUSION
In reality, revenue information is more difficult to collect accurately.

INTRODUCTION

Key Words	**Price setting under profit maximization principle:** A profit maximizing firm will produce goods where MC=MR and MC is rising and the price to be charged for this level of output is determined from the demand curve the firm faces.
Issue & Approach	In this essay, I shall consider the problems which the organizers might face in setting the different prices for the concert tickets to maximize profits.

BODY

Economic Profit is a firm's total revenue minus its total cost that include both explicit and implicit costs. In order to maximize profits, the concert organizer needs to accurately calculate the economic costs and total revenue. However, in reality there are huge difficulties to calculate implicit costs and demand. Also, to practice price discrimination, calculating the different price elasticities will be challenging.

Thesis: Collection of revenue information

Difficulties in estimating AR and MR
- Firms in reality are unlikely to know precisely or even approximately their demand curves & hence their MR curves.
- The demand curve for a firm's product does not remain static. They may change due to changes in consumers' tastes & preferences, their income levels as well as the actions of rival firms. The outcome of these changes cannot be predicted with accuracy.
- Example: As the rating of artistes is greatly influenced by the mass media, any favourable or unfavourable publicity can swing the demand for their concert performance. E.g. the popularity of male artiste among his female fans may dip after he announced his attachment to a particular girl. The organizers are not able to predict such changes in demand condition when making pricing decision.
- As price list must be printed before the actual sale of tickets, pricing is based on predicted demand. If price is set above equilibrium price i.e. too high, it will result in many vacant seats which has detrimental effects on loss in revenue as well as morale of the artistes and their fans (loss of "face" & reputation). Some organizers try to salvage the situation by giving away free tickets using various channels e.g. lucky draw events, tie-up with tour packages etc. The need to resort to such sales gimmicks itself may further reduce the rating of the artiste.

Difficulties in charging 3rd degree PD

- In the case where the organizers would like to raise TR by practicing price discrimination, he will face difficulties in determining the different price elasticities of demand.
- Formulae for price elasticities are based on small changes in its own price with ceteris paribus condition.
- If there is a large percentage change, then the estimate of elasticity may be inaccurate.
- Ceteris paribus condition in reality is almost impossible as many variables, be it income, taste & preference, etc can change simultaneously.
- As a result, these values are likely to be limited in accuracy & become obsolete very quickly.

Evaluation

For a 5000 seating capacity, it is difficult to surface all the different elasticities in accordance to where the seats are located. Hence it's difficult to allocate the correct amount of seats to different sub-markets, unless surveys are done by the event organizer prior to staging the concert so as to gauge how popular the artiste is in the country.

A clear example of the difficulties faced by the firm is the emergence of black markets which involves the reselling of tickets to popular concerts at very high prices. These black markets emerge when prices are fixed at below market equilibrium, resulting in a shortage. This means the organizer could have priced the tickets higher.

Anti-Thesis: Collection of cost information

Difficulties in determining costs

- Under profit-maximization in economics theory, the organizer should consider the sum of both explicit & implicit costs.
- Explicit costs require outlays of money and examples are paycheck to the band and production crew, installation of the sound system and renting the venue.
- Implicit costs are the opportunity costs of resources the organizer makes available for production with no direct cash outlays and examples include the value of his labor and the interest that could be earned were the owners' assets not tied up in the business.
- However, in reality, the concert organizer is only concerned with explicit costs because it is easier to compute.
- Hence the concert organizer would not be able to maximise profit except by chance because he would not be aware of its true marginal cost schedule.
- In short, implicit costs are hard to compute, hence actual cost conditions are also difficult to estimate.

Most of the cost is fixed. The cost of selling an additional ticket is minimal and close to zero. Hence variable cost is minimal and can be considered to be zero. Since **maximize profits is where MR=MC and in this case 0, the organizer should set price where the TR is maximum and in this case selling all the 5000 tickets.**

Evaluative comment:

In reality, concert organisers are interested only in explicit costs not economic costs, which means that they are interested only in measuring accounting profits. Thus, it is difficult to measure normal, supernormal profits or subnormal profits in reality.

Conclusion

From the sellers perspective the key information that is required for pricng tickets profitably is knowledge of consumers' WILLINGNESS TO PAY for the concert. Theoretically, ticket sellers must be able to derive both the demand curve as well as the price elasticity of demand for concert tickets. If ticket price is set at level that is above consumers their willingness to pay, organisers may end up with unsold tickets and losses. However, the problem is such information is often not easy to obtain accurately in a world of imperfect information.