Features of an oligopoly

1A Main economic features of an oligopoly and key economic theories of price fixing

Introduction

This essay aims to identify main economic features of an oligopoly. An oligopoly is a market structure where few firms share a large proportion of industry output among them. This situation occurs when new firms are not able to enter the market and compete with existing firms and demand of output is not fluctuating. As under oligopolistic market few firms hold the market share, firms business decisions are interdependent. Essay also explains the economic theories of price fixing.

Characteristics of oligopolistic market structure

There are few characteristics of oligopoly that distinguishes it from other market structures:

Few firms share large portion of industry, the firms under oligopoly may produce identical products or differentiated products, interdependence of the firms decision making, long term price stability and non fluctuating demand. To understand that why only few firms share large portion, the factors effecting entry of new entrants in market need to be explained. According to Maunder et al. (1991) these factors can be licensing policy of government, patents, and control over critical resources, huge investment required to match maximum efficiency scale achieved by economies of scale, mergers of firms and brand development.

Industry Concentration

According to Maunder et al. (1991), degree to which output of the industry is concentrated in a few hands is industry concentration, Industry concentration can be measured by using concentration ratio and Herfindahl-Hirschman Index (HHI) . As per Wonnacott & Wonnacott (1986) a concentration ratio measures the percentage of an industry output produced by largest n firms, it is summation of percentage of market share of individual firm. The concentration ration is expressed as CRn

Mathematically concentration ration can be expressed as

CRn = X1 + X2 + X3 + … … + Xn

where Xi= market share percentage of ith firm

Another measure of industry concentration is HHI, “ the herfindahi index is defined as the sum of the squared market share of all the firms”(Wonnacott & Wonnacott, p. 536)

HHI = X12 + X22 + X32 + … … + Xn2

where Xi = market share of the ith firm.

Cooperation or competition

Firms under oligopoly are strategically interdependent to other firms, to understand the effect of this interdependence on firms’ behaviour understanding of game theory is helpful. “ Game theory seeks to understand whether strategic interaction will lead to competition or co-operation among rivals” (Begg & Ward, p. 131). According to Sloman & Sutcliffe (2001) firms

may wish to cooperate for profit maximisation or they may be tempted and try to compete with the rivals to gain bigger share of industry profit each scenario has different profit out comes (pay-off). The scenario which is optimal for firm can be explained with the help of Nash equilibrium. " Nash equilibrium occurs when each player does what is best for themselves, given what their rivals may do in response" (Begg & Ward, p. 137)

Taking example of two firms A and B to understand Nash equilibrium, each firm has two options: cooperate or price war, value on left is pay off to firm B and value on right is always pay off to firm A. While taking decision firm A analyse the stand of firm B which can be either cooperate or competition. Looking at pay off matrix we can say that whatever be the decision of B, optimum position of firm A is to start price war.

Price fixing and price leadership

When oligopolistic firm decide to collaborate or collude it reduces the fear of price war. Collusion is further defined as formal collusion and tacit collusion. A formal collusion is formal agreement among the firms under oligopoly to control prices and output. A formal collusion is also called as cartel. As per Sloman & Sutcliffe (2001) cartel will maximise industry profit if members of cartel act as a single firm. This situation will create market condition similar to monopoly.

•

Tacit collusion is another form of collusion where firms have understanding among them to cooperate and not engage in price war or aggressive marketing and understanding of price leadership. According to Maunder et

al. (1991) price rise initiative can be taken by market leader to which other firms follow and raise their prices this scenario is known as dominant firm price leadership. Similarly price rise initiative can be taken by firm which is not market leader but asses the change in demand and cost condition better that other firms whereas all other firms in the industry will follow. The firm which took price initiative is called barometric firm hence it is called barometric firm price leadership.

Non collusive oligopoly: Competition among rivals

Firms under non collusive oligopoly compete with rivals, firm reduces prices to gain market share but still prices rather remains stable. According to john Sloman & Sutcliffe (1991) the theory is based on assumptions that if oligopolistic firm reduces its price, rivals will also reduce their prices to prevent loss of market share. But if oligopolist increases its price, rivals will not increase their price so that rivals can increase their market share. The demand curve for each oligopolist firm will be kinked demand curve. As the firm increase its price customers will switch to low priced products hence demand is elastic. On the other hand if oligopolist firm reduces its price, rivals will also follow and reduce their price therefore market share will remain same. As the market share remains same demand curve is inelastic

Source: www. bized. co. uk

Kinked demand graph shows that at price £5 demand is 100 units and demand is elastic above price £5 but inelastic below price £5.

1B Extent to which UK supermarket is oligopoly and extent to which it can support price fixing

Introduction

To discuss about oligopoly market structure, example of supermarkets in UK will be analysed in this part of essay. Supermarket is a self service store selling groceries, confectionaries, dairy products, tobacco, alcohol and products required for daily household purpose. Large proportion of UK supermarket industry is captured by few supermarkets. UK super markets are perfect example of oligopoly structure of market. The essay will also discuss the factors influencing entry of new entrants in market and also the extent to which firms under oligopoly can support price fixing. Decision by each firm on product prices is made keeping in mind the strategy of rival firms. Few large firms influence the prices of product for whole market. Competition among firms is not only on prices but also on non price issues like advertising, service, and opening hours etc.

Market share

Looking at the data available, market share of supermarket industry is distributed in such a way that few large firms are holding the large proportion of total market. To determine the extent to which market is an oligopoly standard models are concentration ratio and Herfindahl-Hirschman Index (HHI).

Four largest firms in terms of market share are Tesco, Asda, Sainsbury’s and Morrision.

The concentration ratio of these four firms is summation of percentage share of each firm.

CR4 = 30. 4+17. 5+16. 10+11. 80 = 75. 80

Hence the concentration ratio of four largest firms in supermarket industry is 75. 80%

HHI for super market industry comes out to be 0. 17

Both concentration ratio and Herfindahl-Hirschman Index suggest that this is a oligolpolist market structure

Entry barrier

For super market industry there are lot of entry barrier for new entrants. Supermarkets like Tesco, Asda, Sainsbury's, Morrison has large number of stores across the country. These stores can negotiate effectively on prices on basis of their high purchasing power hence they can offer minimum price to customer. To match with prices provided by supermarkets new entrant need to invest huge amount. Brand loyal is also a factor that discourages new entrants to enter the market.

Price fixing and price leadership

By applying game theory on supermarket oligopoly we can say that if all firms cooperate with each other, firms can maximise their profit. This cooperation can be formal collusion or cartel under which all supermarkets can fix prices and quantity of products to be sold. The supermarket under cartel can also fix prices for products to be purchased from suppliers. This type of cooperation or cartel is illegal under UK law. In 2007 Sainsburys's and

Asda were fined £116m for fixing the price of milk, cheese and butter. Another type of cooperation is tacit collusion; supermarkets can be identified as following barometric firm leadership. Taking a scenario when profit reduces due to cost pressure on industry one supermarket will increase its product price and all other supermarkets will follow.

Competition

Price competition is fierce in supermarket industry, as each firm try to increase its market share try to attract customer by reducing their prices. Tesco, Asda and Sainsbury's started price war in 2009 to attract new customer. Asda announced to reduce prices on thousands of products soon it was joined by Tesco and Sainsbury's by declaring to reduce prices of products. Apart from price competition firms try to find out to attract customers from rival super market and retain their existing customer this is called as non price competition. Firms use different ways for non price competition such as aggressive marketing, issuing loyalty card to customer by which customer can get discount of future purchase thus retaining existing customers, extension of opening hours, home delivery system and internet shopping. If there is no cost pressure and one supermarket decide to increase prices to increase profit margin, other supermarkets will not increase their price so that they can attract customers of the firm that has increased prices. But if one supermarket reduces their prices, all other firms will follow and reduce their prices to maintain their market share. Hence in absence of any cost pressure firms in supermarket industry will follow kinked demand graph as explained above in this essay.

Conclusion

Thus after analysing features of oligopoly and analysing UK supermarket industry for which concentration ration of four largest firms is 75. 80 % and characteristics such as strategic interdependence and entry barriers we can say that UK supermarket industry falls under oligopolistic market structure. The firms in supermarket industry can formally collude and fix prices as buyer and seller. But as we have seen in example mentioned in essay that the firms involved in price fixing were fined by government. Though supermarkets cannot support formal price fixing but they can have understanding among them which can keep prices stable as we have seen in tacit collusion

References

Maunder, P, Mayer, D, Wall, N, Miller, RL 1991, Economics explained, 2nd edn, The Bath Press, London

Wonnacott, P, Wonnacott, R 1988, Economics, 3rd edn, McGraw-Hill, Singapore

Begg, D, Ward, D 2007, Economics for business, 2nd edn, McGraw-Hill, Berkshire

Sloman, J, Sutcliffe, M 2001, Economics for Business, 2nd edn, Pearson Education. Essex

Another record share for Asda(Plus an update on grocery price inflation), 2009, tns news, viewed 22 Nov 2010, http://www. tnsglobal. com/news/news

Market Share, n. d, viewed 22. Nov 2010,

http://www. bized. co. uk/educators/16-19/economics/firms/…/structure. ppt