AN ALTERNATIVE TO PERFECT COMPETITION

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SUMMARY

High concentration can result in welfare losses due to excessive profits and prices. This, however, need not always be the case, since high concentration can be caused by factors such as superior performance and efficiency.

Contestability is an alternative to competition policy which does not necessarily call for deconcentration. An industry can be contestable whether it consists of one or many firms. In a contestable market prices will equal marginal cost unless it is not economically viable (if revenue does not cover cost). If prices are set equal to marginal cost welfare will be maximized, if prices are set above marginal cost but are Ramsey prices the loss in welfare will be minimized.

Contestability is efficient towards promoting welfare and is easier to apply than competition policy.

OPSOMMING

Hoë konsentrasie kan lei tot 'n welvaartsverlies as gevolg van oormatige wins en pryse. Dit hoef egter nie altyd die geval te wees nie, aangesien hoë konsentrasie veroorsaak kan word deur ander faktore soos beter prestasie en hoër effektiwiteit.

Mededingbaarheid is 'n alternatief vir mededingingsbeleid wat nie noodwendig dekonsentrasie vereis nie. 'n Industrie kan mededingbaar wees al bestaan dit uit een of baie firmas. In 'n mededingbare mark sal pryse gelyk aan marginale koste gestel word, tensy dit nie ekonomies is nie (as ontvangstes nie koste oorskry nie). As pryse gelyk aan marginale koste is, word welvaart gemaksimeer, as pryse egter bo marginale koste is, maar gelyk aan Ramsey-pryse word die verlies aan welvaart geminimaliseer.

Mededingbaarheid is effektief ten opsigte van die bevordering van welvaart en is makliker om toe te pas as mededingingsbeleid.

1. INTRODUCTION

The basis for this paper is directly founded on the basic economic problem, namely the endless demand on a limited supply of resources. Scarcity of resources demands optimal utilization, therefore inefficient allocation, production and redistribution of resources must be prevented.

It is generally known that the perfect competitive market structure result in the optimal utilization of scarce resources. In a perfect competitive market, an individual firm cannot dictate price. All firms will minimize cost as to maximize profit. Equilibrium prices and quantities will be optimal.

Perfect competition, however rarely exist. A requirement for perfect competition is the existence of a large number of firms in an industry. In reality, most industries consist of only a few firms, and is rather concentrated. A concentrated industry is more likely to be inefficient, and therefore demands more attention from the authorities, in order to prevent the inefficient utilization of scarce resources.

The South African government used the Maintenance and Promotion of Competition Act, No.96 of 1979 to investigate activities of firms in industries. The Act's main objective was to maintain and promote competition in the economy. Today the South African government uses the Competition Act, No.89 of 1998. The Competition Board is responsible for investigating "non-competitive" practices, acquisitions and monopoly situations (SA Competition Board (b), 1993:1-2). The Competition Board also investigates proposed mergers and acquisitions. Mergers and acquisitions serve to increase concentration in industries (Cowling et al ,1980:9). In the past if a merger increased the concentration in an already concentrated industry even further, the merger may have been prohibited, because the aim of the Competition Board was to promote a more competitive economy (South African Competition Board (b),1993:2), now the focus of the Competition Board changed. If it appears that the merger is likely to lower competition, but the merger result in gains (such as technological advancements and improved efficiency) not possible without merging, it will not be prohibited (Competition Act, No.89 of 1998:767). The Act's main objective now it to promote efficiency, adaptability and development of the economy.

The aim of this paper is to discuss this alternative approach for policy makers regarding a concentrated industry. There are three basic motives for this alternative policy: First, there are reasons why an industry tend to be concentrated, rather than competitive, such as superior business skills (Kessides ,1988:2). Second, concentrated industries exhibit economic advantages, such as increased investment in research and development due to the extra funds available (Stigler as in The New Palgrave Vol 3, 1987:346). Third, another market structure exists, namely contestability, over and above that of perfect competition. Both these market structures exhibit the same positive influence on social welfare such as the optimal uitization of resources, but perfect contestability also offer a broader and more useful guide for public policy towards competition (Walters ,1993:49).

This paper will first discuss economic concentration ; the causes and effect of concentration on the economy. Secondly, this

paper will discuss contestability; the characteristics of a contestable market, the efficiency of contestability to promote social welfare, as well as its practical applicability as an alternative approach to competition legislation.

2.ECONOMIC CONCENTRATION

An industry can be generally classified as a group of firms supplying competitive products (Mansfield ,1988:20). An industry is said to be concentrated when the sales or output from a few firms account for a significant large portion of industry's output or sales (Mann as in Encyclopaedia of Economics, 1982:178). If there is only a few firms in an industry the industry is automatically concentrated. An industry can also be concentrated if there are a large number of firms in that industry. This will be the case when only a few of the firms in that industry are responsible for the largest portion of output or sales.

2.1 Determinants of concentration

2.1.1 Mergers and acquisitions

In the short run it is generally accepted that mergers lead to an increase in the level of concentration (Cowling et al,1980:9). Horizontal mergers, where two or more competing firms merge, lead to a significant increase in concentration level, higher than with any other form of merger (Cowling et al ,1980:9), but the motive for the merger should also be taken into account. The motives for mergers and acquisition are numerous, namely monopoly powers, higher efficiency, financial and tax benefits, and a good buy (Pautler and O'Quinn ,1994:742-747).

2.1.2 Capital intensity

The high cost associated with raising capital, makes it more difficult for smaller or new firms to enter an industry, and thus capital intensive industries will tend to be more concentrated (Brozen ,1982:107)

2.1.3 Risk

High concentration in an industry may be a consequence of the riskiness involved when investing in that industry (Brozen ,1982:119). Entry into an industry faced with high risks tends to be low, since most firms will not be willing to take the cost of risk. Furthermore, firms in a high risk industry, will lessen the chances of losing everything by spreading the risk. The risk can be spread by owning more than one plant in that industry (Brozen ,1982:119) increasing concentration even further.

2.1.4 The convergence path of concentration over time

In general it was found that concentrated industries tend to become less concentrated with time (Brozen ,1982:96), but concentration trends differ from industry to industry. Fourie et al. (1989) showed in their paper on concentration trends in South Africa, that economic concentration in South Africa is high and increasing and that it is not a "temporary aberration".

2.1.5 Effective business practice / superior performance

IIf a firm is effectively managed, it will be able to sell at lower prices, attract more buyers and obtain higher profits. This firm's natural course would be to expand business. The firm's market shares will increase because of the increase in sales. This will lead to increased concentration. (Kessides ,1988:1).

2.1.6 Innovation and patenting

Product innovation is the development of new commercial products of acceptable quality available for sale in a quantity and a price intended to yield profits (Stobaugh ,1988:13). The initial result of innovation is that is leads to higher concentration, because the main reason for innovation is to obtain monopoly powers. (Lefebvre and Lefebvre ,1993:298). After product innovation, process innovation follows. Process innovation is a new commercial process to make an existing product (Stobaugh ,1988:13). Process innovation results in lower costs, expelling the higher cost firms from the market, resulting in increased competition.

Innovation is followed by patenting. Patenting is the required gains from innovation. Patenting give rise to monopoly powers and increased concentration, seeing that patenting excludes other firms from production and selling patented product. (Rhodes ,1994:55).

2.1.7 Advertising

Advertising can influence concentration either positively or negatively: Excessive advertising is an entry barrier and thus an indirect cause of concentration (Greer ,1984:355). Advertising on the other hand may serve as an informational source for the consumer, resulting in the entrance of more firms, reducing concentration (Das et al.,1993:1409).

2.1.8 High profitability of a firm in an industry

The possibility of high profitable firms to expand in an industry is more likely. Such a firm's market share will also expand, causing higher concentration. The latter is called the Differential Efficiency Hypothesis (Kessides ,1988:3), and occurs when concentration is caused by superior business performance.

2.1.9 High industry profitability

Entry into an industry with high profitability is substantial , the motive being shared profits. The appearance of additional firms and additional capacity will then erode the market shares of the leader in that industry. Concentration will decrease. (Brozen ,1982:105).

2.1.10 Entry barriers

An entry barrier in a market exists if there are incentives for firms not to enter a market. The entry rate is a good measure to indicate the degree of entry barriers that exist in that industry (Brozen ,1982:115). If an industry's entry rate is low, or in other words, if effective entry barriers exist, the concentration in such an industry will be high (Brozen ,1982:114). An entry barrier is a source of market power and will therefore have an effect on market performance and conduct (Bain,1956:3). Likewise the absence of entry barriers will also have a certain effect on market performance and conduct: even though an industry's concentration level may be high, but entry and exit are easy and costless, the threat of possible entrants into the industry will force firms in the

industry to sell at effective prices (Baumol et al ,1988:2).

J.S. Bain (1956), Sylos-Labini (1957) and Modigliani (1958) defined an entry barrier as follows : an entry barrier exists if the established sellers in an industry have certain advantages over potential entrant sellers. Later George Stigler (1968) (As seen in Baumol et al, 1988:282) defined an entry barrier as those costs that entrants must pay but which existing firms avoid. Another alternative approach was given by Von Weizsäcker (1980) (As seen in Baumol et al, 1988:282). He defined an entry barriers as any advantage over an entrant that an established firm enjoys if that advantage produce a welfare loss (Baumol et al ,1988:282). However, most authors on the subject of entry barriers favour the broader definition (in line with Bain's definition) and define an entry barrier as anything the inhibits entry (Walters ,1993:312).

Entry barriers can be classified into three categories, namely structural, behavioural and legal barriers (Bain, 1956:16 and Greer ,1984:159). Structural barriers exist due to the market structure wherein a firm function and include barriers such as economies of scale, absolute cost advantages, product differentiation, sunken cost and fixed cost; in general capital cost requirements. Behavioural barriers are caused by selling- and price strategies of firms. Limit pricing, predatory pricing and advertising are all behavioural barriers to entry. Legal barriers consist of barriers such as government corporations, licensing and patenting (Greer ,1984:155-159 and Clarke et al,1998:102).

From the barriers listed above economies of scale and fixed cost are the only two barriers not leading to a welfare loss . When an industry contains barriers such as economies of scale, care should be taken when applying competition policy. It is possible that such an industry will function most efficiently at high levels of concentration. (Baumol et al,1988:289).

2.2 The effects of concentration

Business conduct and performance are not only influenced by the market structure in which they function, but a business's conduct also influences the market structure itself - this is formally called the Structure-Conduct-Paradigm (Walters ,1993:134). Concentration influence profits, prices, innovation, inflation, wages and productivity.

2.2.1 The relationship between concentration and profits

Joe S. Bain (1956) was the first to introduce the Concentration-profit Hypothesis or also called the Market Concentration Doctrine (Kessides ,1988:1). The Market Concentration Doctrine states that there is a positive link between profit, prices and concentration (Kessides ,1988:1), thus if concentration is high, profits will also be high, leading to policy measures being solely applied on grounds based on raised concentration, because collusion and the obtaining of market power were synonymous with high levels of concentration (Walters,1993:187).

During later years, studies were undertaken to find the underlying causes for the positive relation between concentration and profits. The findings were that firms possess superior efficiency, better business skills which will earn higher profits enabling them to grow at the expense of their rivals resulting in the stated positive relation between concentration and profits. This is called the Differential Efficiency Hypothesis. (Kessides ,1988:2, Pautler and O'Quinn,1993:768, Brozen,1982:210 and Walters,1993:187).

2.2.2 The relationship between concentration and prices

As seen above the Market Collusion Doctrine states that there is a positive relation between concentration an prices, which implies that concentration ends competition and leads to monopolistic prices (Brozen ,1982:131). In industries with relative high concentration levels (for example monopolistic) prices are not tied to marginal cost. Monopolistic firms earn economic profits, while in the competitive case prices are set equal to marginal cost.

The relationship between concentration and prices gives a better indication on whether or not the concentration-collusion theory holds (Evans et al ,1993:431), since it is easier to obtain transaction price date for products, than it is to obtain data on profits obtained by firms.

2.2.3 Concentration and innovation

Innovation is the development and production of a new product, ready for sale. The development of new products, that is innovation, promote growth, resulting in economic development and this again results in higher per capita income (Stigler As in The New Palgrave Vol. 3,1987:346). Innovation influences the economy positively.

Innovation and firm size if positively related. Perfectly competitive industries do no facilitate innovation, because they cannot reap enough rewards from innovation, while a firm with monopolistic power can prevent imitation and thereby capture a greater profit from innovation. (Stigler As in Industrial concentration: The New Learning ,1974:268).

2.2.4 Concentration and advertising

R. Dorfman and P.O. Steiner (1954) developed models in order to determine the profit-maximizing level of advertising in various market structures. There conclusions were as follows : Advertising is higher in a monopolistic market, while advertising tend to be zero in a competitive market. The implication is that firms in a competitive market do not profit from advertising. In an oligopolistic industry advertising will be high if firms are co-operative and will decrease as the oligopoly gets more competitive.

The influence of advertising on market structure can be either positive or negative. Advertising can promote competition because of the informational services provided, or it can be detrimental to competition by creating brand loyalty (Scherer and Ross, 1990:572). One of the most important effects of advertising is its influence on product differentiation, since advertising

enforce product differentiation. Product differentiation is an entry barrier, and serves to increase concentration. (Scherer and Ross:1990:571).

2.2.5 Concentration and inflation

The belief was that market power generates an inflationary bias which then leads to high levels of unemployment. This inflationary bias is caused by cost- or seller-push inflation. Sellers in a market use their market power to set prices above their marginal cost, causing price increases which lead to inflation (Greer ,1984:481).

Later George Stigler stated that no relation between concentration and inflation exists, since inflation is a macro-economic variable which would not be influenced by an individual market structure. Brozen stated that there is actually a negative relationship between concentration and inflation. This will be the case when superior performance is the cause of concentration. (Brozen ,1982:75).
2.2.6 Concentration, wage rates and productivity

Studies done by Brozen (1982) and Greer (1984) show a strong positive relationship between concentration and the wage rate. Possible explanations exist for the positive relation between concentration and wages. Firstly, large firms are more able to pay higher wages , secondly concentrated industries tend to be capital intensive, which means a high capital-labour ratio, implying higher wages. Thirdly, large firms are targets for unions, resulting in higher wages due to the strong force from unions. (Fourie,1993:140).

Studies done by Scherer and Ross (1990) showed a positive relation between concentration and productivity as well (Scherer and Ross,1990:645). Large firms experience greater labour productivity; the motivation for productivity lies in the fact that rewards exist for improved efficiency (Brozen ,1982:61).

3. CONTESTABILITY

Concentration has certain negative effects on market structure as it leads to higher profits and prices. However, concentration has also certain positive effects such as increased innovation, wage rates and productivity. Competition policy applied solely on grounds based on increased concentration can erode the positive effects of concentration as well as the optimal utilisation of resources.

A possible alternative approach for public policy, namely contestability, over and above perfect competition exist. Both these structures, perfect contestability and perfect competition may contribute to the effective utilisation of resources. Furthermore, perfect contestability can be found in a concentrated industry, while perfect competition requires a large number of firms and rarely exists (Willig As in The New Palgrave Vol. 1,1987:618).

3.1 Characteristics

The prerequisite for a contestable market is free entry and costless exit (Mansfield ,1988:357 and Martin,1993 (b) :297). Free entry means that firms who enter the industry should be able to produce and maintain production at costs comparable to those firms already in the industry. Costless exit implies that a firm can leave the market without forsaking any costs not directly related to production. The firm must be able to sell its capital at the original cost less depreciation (Martin ,1989:1090). A firm in an industry may not have any advantage above a possible entrant to the industry (Rosser,1988:180).

Perfect contestable markets differ slightly from contestable markets. A perfect contestable market is defined as a market in which potential entrants can enter, and be faced with the same demands faced by the incumbent firms. They must be able to use the same production techniques, and furthermore, potential entrants will evaluate entry on grounds of the incumbent firms' "pre-entry" prices (Baumol et al ,1988:4).

The reasoning behind the efficiency of contestability is simply that the threat of possible entrants in a market will force the incumbent firm to produce at minimum cost in order to sell at prices and quantities, which are optimal. If incumbent firms do not produce at minimum costs, it will be possible for entrants to enter the market and sell at lower prices and thus undercut the incumbent. This will only happen if the entry barriers are low enough. (Mansfield ,1988:357 and Martin1993 (b):300).

An industry may be contestable regardless of the number of firms in an industry (Willig As in The New Palgrave Vol 1,1987:618). Thus, even an industry which consists of one firm may be contestable.

Industry equilibrium will be reached if no incentives to enter a market exist. This will be the case if prices and quantities are such that possible entrants will not face the risk of entry, however, the prices and quantities must be such that the incumbent is able to produce without a loss (Whinston and Collins ,1990:5).

3.2 Contestability and efficiency

The welfare implication of contestability can be measured against Pareto-optimality. Pareto-optimality is defined as changes that harm no one and benefit some, so providing an improvement in terms of welfare (Mansfield ,1988:468).

There are three conditions for Pareto-optimality, namely (1) the optimal allocation of commodities among consumers, (2) the optimal allocation of inputs among producers, and (3) the optimal allocation of inputs among industries combined with the optimal allocation of commodities among consumers. (Mansfield ,1988:469).

A perfect competitive firm is Pareto-optimal, since it satisfies all the requirements for Pareto-optimality (Mansfield ,1988:470). In a perfect competitive market prices are set equal to marginal cost, resulting in Pareto-optimality. Thus, marginal cost pricing enhances social welfare, and any divergence from marginal cost pricing result in a welfare loss (Mansfield ,1988:470).

In a contestable industry it will often be the case that prices are set above marginal cost, for example when the industry is a natural monopoly or where economies of scale exist. In the case of economies of scale it would not be

economically viable for firms to set prices equal to marginal cost, since revenue will then not cover total cost (Sherman ,1989:124).

If prices are not set equal to marginal cost allocative efficiencies arise (Sherman ,1989:8). Allocative inefficiencies violate one or more of the three conditions for Pareto-optimality. Even though such an industry may not maximize welfare it still may contribute to welfare (Tye,1990:5). When this is the case the theory of second best stand. The theory of second best states that when one or more of the conditions for Pareto-optimality is violated, another condition must be set that will minimize the welfare loss. An alternative condition for efficient pricing is Ramsey-pricint (Sharkey, 1986:49). Ramsey-pricing involves the determination of a price vector that will maximize the net benefit of the consumer; the Ramsey price vector is such that just enough revenue will be earned to cover total cost with the smallest possible sacrifice in consumers' welfare (Sherman ,1989:124). From the viewpoint of contestability Ramsey prices are determined so that only the profit permitted by barriers to entry are earned; at these prices profit will still be small enough so that entrants will not be attracted to enter (Baumol et al, 1988:231).

3.3 Policy implications

The primary aim of public policy and intervention is to improve the general economic welfare. Economic welfare can be improved by protecting the consumer and the small business against exploitation and by improving the effectiveness of the allocation of resources. Government regulation of economic activity is divided into three categories: antitrust policy, economic regulation and social regulation. (Walters ,1993:10). Antitrust policy aims at preserving competitiveness in the economy, while economic regulation deals with pricing and output decisions in different industries. Social regulation have certain social goals, such as the safety of both worker and consumer.

In antitrust policies and economic regulation are applied an increase in the efficient allocation of resources and welfare should occur.

The question to be answered is whether policy measures should be applied to reduce concentration. Concentration per se should not be ground for enforcing policy measures without first determining how that structure evolved and what consequences it may produce (Brozen ,1982:396 and Clarke et al,1998:179). There are a number of cases where the application of policy measures will result in a loss of welfare, for example where high levels of concentration are due to the "superior performance" of firms in that industry (Kessides ,1988:2).

Indicators of market performance such as concentration, price discrimination, conglomerate mergers, or horizontal integration do not automatically call for government intervention in contestable markets (Baumol et al,1988:465). If an industry is contestable, and its behaviour is in accordance with contestability, the industry structure do not impose any welfare losses, and government intervention is uncalled for (Baumol et al.1988 :466). The criterion for the appropriateness of intervention should not be the degree of departure of perfect competition, but rather the degree of departure from the attributes of perfect contestability, since perfect contestability is a "much more applicable benchmark" (Baumol et al,1988:466).

Baumol et al (1988) set seven tasks to be undertaken for empirical investigation to determine the degree of departure from the attributes of perfect contestability. These are:
(1) The determination of the industry structure within which the industry's products can be produced most inexpensively.
(2) The determination of the degree in which the industry is contestable. That is whether or not entry and exit costs exist, whether both the incumbent and possible entrant have access to the same production techniques, whether both the incumbent and possible entrant face the same demand.
(3) The identification of the problems in the industry contributing to the degree in which the industry diverges from contestability.
(4) The determination of a price-vector where the incumbent will still be able to sell at a profit, but will attract no entrants.
(5) A qualitative as well as a quantitative description of the price-output vector in (4) should be given.
(6) An investigation into any possible problems associated with the price-output vector in (4) and (5) resulting in a welfare loss should be staged.
(7) The listing and the description of any institutional difficulties to the adoption of the efficient price patterns.

Contestability as a policy approach can be applied under various circumstances, for example to investigate a proposed merger, or to decide whether or not to regulate or deregulate markets. The Competition Act, No.89 of 1998 allows for the fact that mergers may not necessarily lead to a welfare loss. The Act states that when determining whether or not a merger will lead to lower competition, the Competition Commission or Tribunal must assess the following:
(1) the actual and potential import competition in the market;
(2) the height of entry barriers into the market, including tariff and regulatory barriers;
(3) the level, trends of concentration, and history of collusion;
(4) the degree of countervailing power in the market;
(5) the likelihood that the acquisition will result in market power;
(6) the characteristics of the market in terms of innovation, growth, and product differentiation;
(7) the nature and extent of vertical integration in the market;
(8) whether a party to the merger has fail or is likely to fail; and
(9) whether the merger will result in the removal of a competitor.
(Competition Act, No 89 of 1998:767)

4. CONCLUSIONS

Even though a concentrated industry can lead to a welfare loss it does not always need to be the case. If a concentrated industry is contestable, it does not produce a welfare loss. If prices are set equal to marginal cost, no welfare loss arise, as in the case of perfect competition. If prices are set above marginal cost, but the prices are Ramsey prices, the welfare loss will be minimized. The need to set prices above marginal cost arises when total revenue can not cover

total cost at prices equal marginal cost, for example when economies of scale exist.

Contestability is an alternative for perfect competition and is also easier to apply as a policy approach.

Perfect competition requires the existence of a large number of firms and thus places a large demand on space. Contestability does not always require the existence of a large number of firms, since an industry can be contestable if there is only one firm in the industry, thus effectively reducing the demand on space.

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