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ANTITRUST LAW

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Abstract

The first part of this chapter surveys the interaction of the economics of competition and antitrust in a somewhat historical perspective. The evolution of economic theories on competition can be divided into four stages: (1) the origins of competition: the dynamic concept of competition in classical economic literature and the static concept of competition in price theory, followed by the development of models of imperfect competition and monopolistic competition; (2) the structure-conduct-performance paradigm (Harvard School of Industrial Organisation); (3) the 'antitrust revolution' of the Chicago School and the related theory of contestable markets, and (4) the new industrial economics, making use of game theory and transaction cost analysis.

The second part of this chapter investigates how far economic theory and concepts of industrial economics have had an influence on antitrust law. In the USA economic views on competition theory have had a much clearer impact on antitrust law: legal rules tend to change when the underlying economic theory changes. In Europe, competition law seems to be influenced more by political objectives than by economic theory; economic considerations are often either absent or outdated. The discussion of some leading antitrust cases illustrates the differences between the American and the European approach.
JEL classification: K21
Keywords: Cartels, Competition, Structure, Conduct, Performance, Chicago School, Bounds Approach

1. Introduction

The economics of competition and antitrust law have a long-lasting tradition of fruitful interaction. Since the very beginning of antitrust legislation,

microeconomics has influenced the context as well as the implementation of the law. And as one of the great economists of this century, Lord Keynes, pointed out, practitioners always adhere to the theories of a defunct economist, leading contemporary economists to write papers on the inadequate or outdated application of economics on antitrust legislation. Nowadays, not only the economics of competition, but also the economics of information and the theory of economic federalism have exercised their influence. The field of economics of competition is currently called industrial organisation or industrial economics. This has, however, a much broader scope by also focusing on the economics of regulation, innovation and advertising, among others. For a leading textbook, see Tirole (1988), for an introduction, see Scherer and Ross (1990) or Carlton and Perloff (1994). The economics of information was recently recognised in the economics profession by awarding the Nobel prize to Vickrey and Mirrlees. The economics of information only could advance due to major breakthroughs in the field of noncooperative game theory under incomplete information. Nash, Selten and especially Harsanyi pioneered contributions in this area, for which they got the 1994 Nobel prize in economics. Game theory also made its way to the law (see Baird, Gertner and Picker (1994) and Phlips (1988, 1995) for pioneering contributions regarding antitrust economics. Applications of information economics to the law can be found in Levine and Lippman (1995). For a combined effort of information economics with the economic theory of (fiscal) federalism within the context of antitrust, see Smets and Van Cayseele (1995).

The present contribution will try to survey the abovementioned interaction in a somewhat historical perspective. This contribution therefore is organised along the following table of contents: the next section sketches the antecedents and the very beginning. Then the old paradigm in industrial economics, together with its application to antitrust in a carefree era, is discussed. More troublesome was the application of these old industrial organisation theories to a number of antitrust cases in the 1970s and 1980s. The criticisms advanced by the Chicago School will receive special attention. The response by the new industrial economics (NIE) as well as the new empirical industrial organisation (NEIO) is put under scrutiny in the following sections. Then follows a description of the current situation in terms of academic research with respect to concentrations. Last but not least, in the final section we investigate what can be retrieved from all this research in legal practice. This structure to some extent follows Van Cayseele (1996), who engages in a similar survey from a pure industrial economics point of view, rather than focusing on antitrust.

2. The Origins of Competition

The roots of the concept of 'competition' are as old as economic science if the latter starts with the famous book *The Wealth of Nations* (see Smith, 1776, 1937). Even before that time the merits of and problems with competition often submerged in economic writings. In an overview, McNulty (1967) referred to the seventeenth-century mercantilist Johann Joachim Becher, writings by Turgot and Hume and to Sir James Stuart, who provided the most complete pre-Smithian analysis of competition. Smith, by anticipating the welfare theorems with his 'invisible hand' theory, generalised competition to a force driving economies to the very best outcomes that are feasible. The most frequently quoted passage in the book is:

> He [specifically each individual] generally, indeed neither intends to promote the public interest, nor knows how much he is promoting it… [He] intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention.

Subsequently economists have proved those theorems and showed their shortcomings (see the Nobel prize winners Arrow and Debreu). Parallel with those mathematical models of a general equilibrium nature - which sacrifice much of the institutional details of competition in real markets - economists have engaged in the mathematical modelling of market forces in much more institutional detail, including asymmetries in information, transaction costs and the concentration and use of power. As already argued in the introduction, these models were only recently recognised.

What does classical economics then have as an implication for competition policy? According to classical economics, healthy competition signifies both reciprocal rivalry and the absence of government restrictions, such as the exclusive privileges which characterised the mercantilist period. The common law in relation to restraints of trade reflected the classical view of competition. Modes of conduct with limited individual freedom were condemned as restrictive to competition. Hence a widespread belief in the 'laissez faire' principle was held. Government intervention in general certainly would not improve upon the results of the competitive process although Smith himself was a believer of keeping entry into the market open. Competition was hailed as a process but limited government intervention sometimes would be necessary to allow for the process to work.

Neoclassical economists continued to believe in the healthy effects of competition but somewhat shifted the interest from competition as a process to competition as a situation, as one later would say, a market structure. The necessary conditions to achieve a perfectly competitive outcome are: (i) the

rivals must act independently or noncooperatively in today's terminology; (ii) the number of rivals, potential as well as present, must be sufficient; (iii) the economic decision makers must possess knowledge of the market opportunities; (iv) there must be freedom to act on this knowledge; and (v) sufficient time must elapse for resources to flow in the directions desired by their owners with no restrictions on the magnitude of these flows. Although Stigler (1968) attributes these necessary conditions to Smith, the characterisation and implications of perfect competition and alternating market structure emerged most pronouncedly in this period. In particular, Edgeworth (1925) and Cournot ([1838], 1971) introduced pioneering contributions which until today remain at the heart of daily antitrust practice.

A perfectly competitive market now was defined as a set of properties such as supply and demand exercised by a very large number of actors, free entry and exit, homogeneous products being traded on the market and zero search or transaction costs. The outcome of such a market is an efficient one in that no other outcome can achieve the same level of welfare for society. Yet it relies on many conditions which are unachievable, such as very large numbers of suppliers (in the presence of scale economies), no search costs (difficult to maintain in the few cases one has very many suppliers) and so on. The model of perfect competition therefore has to be seen as a yardstick against which other market structures are to be judged. In all instances in which this set of properties are not met, a case of market failure is seen to exist. For a long time, the mere existence of such market failures were seen to be sufficient reasons for government policies, such as antitrust laws or the creation of public utilities. Nowadays, this viewpoint has changed. A market failure is a necessary condition for government intervention, but not a sufficient one. The cost of government failures, for instance due to government officials and regulators being captured by private and social interest groups (as documented so well in the public choice literature and avocated by Stigler, 1971), has to fall short of the costs due to market failures. In general, antitrust policy, due to its distance *vis-à-vis* redistributive issues, and due to its permanent and 'generic' character is not an area of government intervention where one expects a lot of capture a priori (see De Bondt and Van Cayseele, 1985).

Cournot and Edgeworth introduced models of imperfect competition. Cournot ([1838], 1971) explicitly took into account the possibility of only a few suppliers in the market. As shown by Novshek (1985), his model can replicate both the perfectly competitive outcome as well as the other extreme, that is, monopoly. While Cournot's model still abstracts from the price formation process by assuming the existence of a Walrasian auctioneer, it substantially adds to realism due to the introduction of conjectures on behalf of the rivals. Recent research, for example by Kreps and Scheinkman (1983) sustains the Cournot model without the Walrasian assumption. But Davidson and

Deneckere (1986) and Van Cayseele and Furth (1996a) demonstrate that the conclusion is very fragile. Edgeworth readily abandoned the abstractions of a price equilibrating process and allowed rivals to undercut each others' price and engage in price warfare. While his conclusions as to cyclical behaviour of prices with periods of collusive pricing alternating with price wars could only be interpreted by means of game-theoretical models half a century later, another model of oligopoly had been conceived. Many textbooks in microeconomics deal with these models as the leading paradigm (see among others Pindyck and Rubinfeld, 1993, and Schotter, 1994).

Meanwhile monopoly, as a market structure that occurs in reality and can be analysed, was also studied. Indeed, the quantitative contributions of economists such as Cournot and Edgeworth allowed for an estimation of the costs associated with monopoly. A clear definition of consumer and producer surplus by Marshall (1920) or Lerner (1934), as well as the recognition of deadweight losses associated with monopoly pricing, was an essential step into giving empirical content to the problem of monopoly. The estimates of the direct loss in welfare of course vary across nations and over time, but are in the range of 0.1 percent to as much as 9 percent. For the US, these estimates can be found in Harberger (1954) or Worcester (1973). Cowling and Mueller (1983) estimated the direct welfare effects in France. The indirect losses are due to rent-seeking phenomena, and can be in the order of magnitude of the direct effects. They, of course, have to be added and illustrate the need to work with models that capture the dynamic aspects of competition. These quite substantial amounts of losses certainly justify the operation of antitrust control, at least from an economic point of view.

In addition to this concern with allocative efficiency, other reasons have been put forward to embrace antitrust enforcement. Each of these, however, is disputed. We therefore only mention them briefly. First, many believe that monopolies and cartels are less innovative than firms operating in competitive market structures. This is sort of the 'opposite Schumpeterian assumption'. While this literature is vast, in particular the empirical studies trying to detect a link between concentration and innovation are highly inconclusive (for a survey see Van Cayseele, 1998). The abovementioned rent-seeking effects are particularly pronounced in the theoretical literature regarding the dynamics of innovation. This is quite natural as one realises that market structure will not only influence innovative activity, but that also the opposite is true. This begs the question whether incumbent monopolies will exploit innovative activities, for example by winning subsequent patents, to continue their position, or whether some kind of 'leapfrogging' will take place, where today's market leaders are tomorrow's followers, a paradigm nowadays acclaimed by Microsoft officials.

A second belief which still is disputed is the following: monopolies and cartels, by being sheltered from competition, become lazy. This gives rise to

organisational slack or X-efficiency (see Leibenstein, 1966, the critique by Stigler, 1976, and the reply by Leibenstein, 1978). Finally, many object to the transfer of wealth from consumers to firms with market power, or the shareholders beyond these firms. While the economic foundations for redistribution are seriously disputed, Lande (1982) believes that the principle reason behind the enactment of antitrust laws was to prevent these wealth transfers, implying political economy motivations for antitrust.

Further relaxations of the perfectly competitive model occurred with the abandoning of the homogeneous goods assumption by, for example, Hotelling (1928), Chamberlin (1933) and Robinson (1964). By allowing for differences with respect to the products sold, each producer gets some monopoly power over those consumers who are addicted to his brand. Nonetheless, there may be many producers in the market, so that the focus here is not necessarily game-theoretic, that is, the recognition of mutual interdependency need not to be central, although contemporary contributions in the field of product differentiation all recognise this interdependency. In doing so, the economic models of product differentiation have provided the foundations to determine the relevant market, a concept used currently in antitrust legislation (see Van Cayseele, 1994).

As reviewed by Friedman (1984), each and every of these departures from the competitive model proved to be path-breaking for the development of the field of oligopoly theory. A few decades and antitrust filibusters later, the so-called new industrial organisation would pick up from here. On the other hand, each of these departures also showed the tremendous richness in terms of modelling possibilities that exist for analysing competition in an industry, and hence the difficulties that will arise in constructing models of general relevance. As such it is difficult to formulate a legal approach that is theoretically correct, predictable and easy and inexpensive to administer for a majority of antitrust issues that can come up, although this has been tried, as the next section shows.

3. The Structure, Conduct, Performance Paradigm (S-C-P Paradigm)

Each and every one of the original models of competition discussed in the previous section has a few items in common. First, the number of suppliers as those who have access to a certain technology is specified. Next, the consumers who have different tastes can make their choice over different brands. In general, the technology and tastes constitute market structure. Still this allows for many different outcomes unless a particular structure entails a certain type of conduct. This is what the S-C-P paradigm tried to achieve: a general theory that mapped common elements in the market structure of any industry into a performance indicator of that sector.

The S-C-P paradigm was developed by Edward S. Mason (1949a) at Harvard University in the late 1930s and early 1940s. The original empirical applications of the new theory were by Mason's colleagues and students, the most famous of whom was Joe S. Bain (1968). The paradigm implies that market results (the success of an industry in producing benefits for consumers, employment, stable prices, technological advancement and so on) in an industry are dependent on the conduct of sellers and buyers (as regards decision variables like advertising, R&D, and so on). Conduct, as mentioned, is determined by the structure of the relevant market. The structure of an industry depends on basic conditions, such as technology and preference structure. Government policy (antitrust policy, regulation, taxes, and so on) may affect the basic conditions, and hence the structure, conduct and performance of an industry.

If true, research along this paradigm would allow any outsider to know profits and consumer surplus in any industry simply by plugging in the variables representing the market structure, at least if a significant and positive relationship was detected in the study. Hundreds of studies have attempted to link market structure to market performance. Concerning static performance (profits and consumer surplus), three major measures of market performance are used: (1) the rate of return, which is based upon profits earned per dollar of investment; (2) the price-cost margin, which should be based upon the difference between price and marginal cost, and is related to the Lerner index of monopoly power and (3) Tobin's q, which is the ratio of the market value of a firm to its value based upon the replacement cost of its assets (for more details see Carlton and Perloff, 1994). The initial studies are by Bain (1951, 1956). In the latter publication Bain argues that profits are higher in industries with high concentration and high barriers to entry. Many studies followed, to name just a few: Schwartzman (1959), Levinson (1960), Fuchs (1961), Minhas (1963), Weiss (1963), Comanor and Wilson (1967), Collins and Preston (1969), Kamerschen (1969), and many others. Other performance criteria, such as the cyclical behaviour of price-cost margins or pricing behaviour as such have been carried out (see, respectively, Domowitz, Hubbard and Petersen, 1986, and Weiss, 1989).

To examine how performance varies with structure, measures of market structure are needed. Industry concentration is typically measured as a function of the market shares of some or all of the firms in a market. The *four-firm concentration ratio* (CR4) is the sum of the market shares of the four largest firms. The *eight-firm concentration ratio* (CR8) focuses attention on the top eight firms in measuring concentration. Alternatively, market structure may be measured by using a function of all the individual firm's market shares. The *Herfindahl-Hirschman Index* (HHI) is the sum of the squares of the market shares of every firm in the relevant market. Later, when the empirical Harvard tradition underlying the S-C-P paradigm was no longer tenable, the pioneering game-theoretic Cournot model was able to strike a link between the Lerner

index and the HHI, which suddenly made it quite popular (see Scherer and Ross, 1990). The fact was already known to Stigler (1968). The concentration indices (CR4 or CR8 and the HHI) can be related to one another (see Weiss, 1969).

Many studies indeed found a positive and significant relationship between market structure and performance, yet others casted doubt as to whether the relationship would hold for different sets of industries or in other eras. Nonetheless the paradigm condemns high degrees of concentration, especially if they are not the result of scale economies but of barriers to entry. Regarding market shares, some studies have made clear that substantial market shares are not evidence prima facie for the presence of market power. On the contrary, it seems to be the case that the resulting larger market shares are the result of superior efficiency, as predicted by a Cournot model with cost asymmetries.

In the United States, the Harvard analysis became the cornerstone of competition policy in the 1960s and remained so until the neoclassical and neoinstitutional approaches began to win the upper hand in the mid 1970s. In the 1968 Merger Guidelines of the American Department of Justice it was stated that an analysis of market structure was fully adequate for showing that the effect of a merger, as spelled out in Section 7 of the Clayton Act, 'may be substantially to lessen competition, or to tend to create a monopoly'. The Department announced that its merger policy would focus on market structure 'because the conduct of the individual firms in a market tends to be controlled by the structure of that market' (see also Section 7 below). An enforcement policy emphasizing a limited number of structural factors would not only produce adequate economic predictions for the showing of anticompetitive effects, but would also facilitate both enforcement decision making and business planning, and as such contribute to legal certainty. Such rudimentary decision making, however, also holds some dangers, for example in allowing firms to accomplish the target indirectly, by circumventing the limited number of structural factors. In some cases this will lead to the same outcome, at a higher cost, or at a counterproductive outcome, as claimed by Bittlingmayer (1985). Here the trade-off will need to strike a balance between the additional costs resulting from closing down all the loopholes *vis-à-vis* the advantage of a simple and transparant attack to antitrust. In many cases, the second order effects probably will not be important enough to tip the balance in favour of an extensive enlargement of the set of structural factors to be monitored, but we know industries can differ in many respects.

4. The Chicago School

The antecedents of the new theories of competition have to be found in the original contributions discussed in Section 2 and, most importantly, to the

presence and interaction of Director and Stigler at the University of Chicago in the 1950s.

In 1942, Stigler had already written that 'it is doubtful whether the monopoly question will ever receive much illumination from large scale statistical investigations' (see Stigler, 1942). In the 1950s the economist Aaron Director, together with a lawyer, Edward Levi, taught anti-trust at the University of Chicago. According to Posner (1979), Director formulated his ideas mainly orally. Numerous authors since then have further elaborated on Aaron Director's core ideas and published them in scholarly journals. Bork (1954) elaborated on the often misunderstood aspects of efficiency resulting from vertical integration and brought together many of the schools' insights in *The Antitrust Paradox: A Policy at War with Itself* (1978). (This book gives a complete and orthodox overview of the doctrine of the Chicago School.) The problem of tie-in-sales was analysed by Bowman (1957). Predatory pricing was investigated by McGee (1958), while another hot issue overwhelmed with misconceptions, namely vertical price fixing, was the topic of a paper by one of Chicago's leading scholars in microeconomics, industrial organisation and law and economics, Telser (1960). A good survey of the issues involved and the economic forces at work is Reder (1982).

The Chicago School's point of departure can be found in neoclassical price theory. The confrontation between the classical, dogmatic approach to anti-trust law and the microeconomic angle of attack gave rise to an extremely rich, new efficiency theory. The Chicago approach to competition policy is not merely the result of the rejection of government intervention in the economy, although the opposite view often occurs. On the contrary, Director reached his conclusions by *analysing* competition problems through price theory. Unlike the economists following the S-C-P paradigm (the Harvard School), who examine competition problems on the basis of observable phenomena (empirical research) and industry tales instead of having recourse to an economic theory, Director sought an explanation for practices observed in real markets which tallied with the maximisation of profits, utility and welfare.

Of course, if firms can engage in actions which are anti-competitive *and* profitable, they will do so. But already in 1964, Stigler showed that it was often more profitable to stay out of cartels than to form them. This conclusion, however, has been both confirmed (see Salant, Switzer and Reynolds, 1983), and rejected (see Deneckere and Davidson, 1984), indicating that one has to carefully investigate the nature of the interactions that takes place in industry, as is done in the game-theoretic tradition, discussed below. In the Chicago tradition, concentration mostly will be the result of *efficiency*, hence if antitrust authorities interfere with an existing market structure, they are likely to cause inefficiencies, and reduce rather than enhance welfare.

One of the most important attacks on the S-C-P doctrine of conducting antitrust policies was given again by Stigler when investigating the role of barriers to entry. Often the Harvard tradition argued that fixed costs were seen to lead to scale economies on the one hand, but also to barriers to entry on the other. Stigler defines a barrier to entry as 'a cost of producing (at some or every rate of output) that must be borne by a firm which seeks to enter the industry but is not borne by firms already in the industry'. Barriers to entry are present only if the costs for firms entering the market turn out to be higher than the costs for the existing firms. If, for example, it costs $10,000,000 to build the smallest possible efficient factory having an economic life of ten years, then the annual costs for a new entrant will be only $1,000,000. The existing firms will be confronted with the same annual costs, at least if it is assumed that they also intend to replace their factories. Accordingly, there is no cost disadvantage for the new entrant (see Posner, 1979; Spence, 1980, or Schmalensee, 1983) for initial ideas regarding the importance of sunk rather than fixed costs.

These ideas were the fundamentals of what later on became the contestable market defence for ATT, and the subsequent new theories of industry structure by Baumol, Panzar and Willig (1982) and Sutton (1991). In fact, what turns out to be important for understanding market structure are not fixed but sunk costs. The latter are defined as non-recoupable costs, or outlays one has to make in order to get in business, but which are without value if one exits. Entrants will not be stopped if the fixed cost - the factory in the example above - can get a new destination or can be sold on a second-hand market (see Section 5 below).

In short, the Chicago tradition then is the bundling of several ingredients, which taken together tell us that the monopoly problem is not all that important. First of all, as a stylised fact, monopolies (or strong market concentration for that matter) do not occur all that often. Moreover, if they are present, they are either the result of scale economies in production and/or distribution - and hence efficient - or the result of barriers to entry. But in the latter case, they are transitory, for the freedom of entry will induce the presence of other players in the market, which compete and hence limit the market power of the initial monopolist. Persistency of market power therefore can only be the result of government itself, by the fact that many of its regulatory policies establish legal barriers to entry, hence creating public monopolies.

In terms of conduct, the often alleged malpractices also are explained by efficiency. Vertical restraints may provide the appropriate incentives for dealers to invest in quality of service or to appropriately advertise the product in its region. Others if allowed to deal in this region would free-ride on these efforts, the final result being that the initial dealer would no longer undertake the necessary efforts to maintain an high quality of service for the product (see also Telser, 1960). Commodity bundling also may be the result of efficiency

considerations rather than trying to exploit monopoly power (see Kenney and Klein, 1983).

From 1970 on, the influence of Chicago economics on US antitrust policy gradually increased. This has led, together with the renewed role of the private sector in the economy, to a different implementation of the law, in the sense that mergers or particular types of conduct have caused less problems for the firms involved. Such an evolution was bound to trigger the comment that Chicago economics is ideologically biased. In addition there is the belief held sometimes in Europe that the majority of the economics profession agrees with the characterisation of the Chicago School as an ideology. This is of course wrong, since what matters is the methodology to study antitrust issues along the lines of price theory, which was pioneered by the Chicago School and has currently been embraced by all scholars in industrial organisation as the starting point of every sound antitrust case. As such, the Chicago learning is well established both within the economic discipline of modern industrial organisation and antitrust practice, at least in the US, although it would be premature to claim that all of the US antitrust action is in line with the Chicago tradition (see Van den Bergh, 1997, and Section 7 below for a relativisation. Nonetheless, the Chicago School influences antitrust policy. The Merger Guidelines were revised several times (in 1982, 1984 and 1992) to take account of developments in economic thinking concerning the competitive effects of mergers. In the 1992 Guidelines there is no longer an explicit reference to the S-C-P paradigm; there is also explicit scope for an 'efficiency defense', which clearly reflects the influence of the Chicago School (see also Section 7 below).

In Europe the same acceptance holds for the academic profession which has been very active in the field of industrial organisation, not the least through the EARIE (European Association for Reseach in Industrial Economics) conferences which celebrate their 25th edition, and for which there is no American counterpart. In antitrust policy however, the gap is substantial. This has led often to inconsistent treatment of one and the same phenomenon over a variety of industries (see again Van den Bergh, 1997).

A real danger of the Chicago price theory tradition comes from the exaggeration of some theoretical concepts that do not apply to the real world very often. To some, contestability theory is such an example. In the US, it has been mistakenly applied, for example, in the airline mergers (see Utton, 1995). The result has been that it has been somewhat discredited. While in general thrust and effects, it is very much in the Chigaco School tradition, the major difference with mainstream Chicago concepts seems to lie in the lack of a positive inclination: the contestable market model serves a normative purpose in that it merely shows that there exists a yardstick market structure in which antitrust policies are useless even in the presence of monopoly. As will become clear, the assumptions needed to obtain this conclusion are so restrictive that

the contestable market model cannot make claims to be descriptive or positive theory.

In the theory of contestable markets, the fact that the market structure is concentrated says nothing, of itself, about the degree of efficiency. Even with a high degree of concentration, allocative efficiency is not excluded because potential entrants exercise a controlling discipline. Perfect contestability produces a similar outcome to perfect competition: prices are equal to marginal costs, as required by the welfare theorems, but without having a substantial number of competitors in the industry. The players necessary to guarantee this result are found outside the industry. In a perfectly contestable market, entry is completely free and withdrawal costs absolutely nothing. (Free entry does not imply that entry costs absolutely nothing, or that it is easy, but rather that the entrant has no relative disadvantages compared with participants who are already active in the market.)

Besides lacking empirical support, many contributions have pointed out that the contestable market model is very particular, and that nearly every change of the assumptions leads to dramatically different outcomes (see, for example, the very early critical review article by Brock, 1983, or the discussion in Schwarz and Reynolds, 1983). For example, if some costs are sunk the incumbent has already paid for them, and will have written them off instantaneously as they are worth nothing if the activity is stopped. Potential entrants find it appropriate to judge the profitability of market entry on the basis of the post entry competition (which will determine the profitability) and the costs they still have to sink. If competition is hard, profits will be too low to cover these costs, and potential entry will never discipline the incumbents for it will not occur. Implicitly, the contestable market model by assuming zero sunk costs therefore assumes that investments can be redeployed in another activity (complete lack of asset specificity), or resold on a second-hand market that is not prone to failures (see, however, Akerlof, 1970, and Van Cayseele, 1993).

Another example of the vulnerability of the conclusions with respect to small changes in the assumptions has been investigated in game theoretic detail by Van Cayseele and Furth (1996a, 1996b). In these articles, it is shown that if merely one assumption, namely that consumers react faster to lower prices than producers, is changed by the reverse assumption, the outcome of the contestable market model completely changes. Instead of predicting the perfectly competitive outcome for an industry in which firms compete with one another in prices, the monopoly outcome results. Other examples which follow a strict game-theoretic methodology show that one change in the assumptions may be sufficient to get drastically different outcomes (see Ausubel and Deneckere, 1987). There, the assumption that non-durable goods are involved is changed into the production of durable goods. While Coase (1972) had

argued that durable good monopolists had no market power, the contestable market model with a duopoly in durable goods yields monopoly outcomes.

From an academic viewpoint, the Chicago price theory tradition has been surpassed in the last decade by the contributions game theory made to the field of industrial organization. In the next section, we enter in detail into the game-theoretic contributions which are important in the area of antitrust economics. For the moment, it is important to stress that these newer contributions have shown that it is quite possible to explain certain mergers and particular types of conduct not as the result of efficiency, but from a clear pursuit of gaining or keeping market power. However, it would be untrue to say that the newer game-theoretic contributions are at odds with the Chicago tradition. On the contrary, from a methodological viewpoint this new approach has pursued with the same rigor as price theory the analytical approach to understanding the operations of firms in an industry. However, by allowing for a richer set of strategies it has been shown that some of the conclusions reached by the Chicago tradition could indeed be the outcome, but at the same time that under slightly different assumptions (which some will argue more closely to reality), quite different conclusions result. What certainly is taken for granted is that both the advocates of laissez-faire (no antitrust) as well as those in favour follow mathematical modelling approaches which allow sharp inroads into the problem, just as price theory pioneered by Director, Stigler and others a few decades earlier.

5. The New Industrial Economics: Game Theory and Transaction Cost Analysis

Game theory offers a rigorous analytical framework - like price theory - to analyse the competition of firms. Game theory requires being explicit on the set of players (firms), on their strategies, and on the advantages these strategies can bring to them (payoffs). It offers solution concepts that take into account first-mover advantages and credible commitments that firms can take. As such it is said to reflect much more real-world competition than any other body of theory. A general introduction of the achievements game theory was able to accomplish for competition policy is provided by Phlips (1988, 1995). Jacquemin (1997) provides examples of the links that game theory has regarding both the goals of competition policies and the anti-competitive practices that are unconceavable with such policies.

In addition to the many valuable insights received from the Chicago tradition, game theory especially has contributed by explicating carefully the relevant strategies and considerations that need to be taken into account as well as by pointing out that perfect information is not always prevalent. This has serious implications for the working of a market. In some cases, including a

more full description of the strategic possibilities has led to a reversal of the conclusion: an insight found within the Chicago tradition was turned upside down. In other cases, the conclusions of the Chicago School have been confirmed, in a richer and more realistic economic environment.

An important example for antitrust is horizontal mergers. Stigler had already argued that mergers for a market power motive would not be formed as it is more profitable to stay out such a merger than to join it. Paradoxically, Salant, Switzer and Reynolds (1983) show that with a linear demand curve, constant marginal costs and firms competing in quantities, at least 80 percent of the firms in an industry have to be included in the merger in order for it to be profitable. Clearly, these are not the mergers that will show up, for antitrust authorities would quickly rule them out on the basis of the creation of dominant positions. This would imply that mergers are not likely to form, unless some important efficiency gains in terms of, for instance, production or distribution costs are made. But these are the mergers that need to be approved from a welfare point of view, hence antitrust authorities only have to bother with clearly dominant positions.

But the result depends on one critical assumption: the competition is in quantities rather than in prices. It was shown by Deneckere and Davidson (1984) that all mergers are profitable even if they do not yield efficiency improvements in the latter case. Hence the conclusions are turned upside down by merely the change of one assumption. This has led those critical of game theory to claim that any conclusion or its reverse can be proved, while the defenders of game theory claim that the advantages definitely outweigh this disadvantage (see, for instance, the discussion between Fisher, 1989 and Shapiro, 1989). The latter includes the fact that game theory requires one to explicate all the assumptions made also on behalf of the rival players (which was not always done by price theory), as well as the richness in terms of institutional detail and hence the realism game theory has added to economic models. In Sleuwaegen and Van Cayseele (1997) still another reason is given, namely the fact that as more game theoretic analysis of industries become available, it becomes possible to operate along a decision tree approach and to guide antitrust authorities as to whether a detailed investigation of the proposed operation is necessary.

Finally, and as shown in a seminal article by Kamien and Zang (1990), game theory allows one to do more. In the just mentioned controversy between Salant, Switzer and Reynolds, on the one hand, and Deneckere and Davidson, on the other, the mergers under consideration are all given exogenously. But it is possible to endogenise the formation of mergers by considering different coalitions that can be formed, and hence reduce the number of conceivable mergers to those that are feasible. Similar game-theoretic exercises endogenise the strategies in which the firms will compete with one another, or even the moves, hence explaining who leads and who follows (see Hamilton and Slutsky, 1990). Another development which seriously attenuates the critique on game-

theoretic models is the bounds approach by Sutton (1991) (see also Section 6 below).

A final advantage of game theory is that, by its analysis of bounded rationality, it opens the way to approaches which hitherto remained outside the mainstream of microeconomics, by the fact that pure price theory does not offer much room for search and transaction costs phenomena. Nonetheless, transaction cost theory has a longstanding tradition in the law and economics of antitrust (see Williamson, 1975, 1979). The central idea in transaction cost economics is that the market is not entirely free in the sense that certain operations (transactions) are not entirely costless. As such, the transaction cost approach superimposes frictions upon microeconomic price theory. Seen in this light, transaction cost analysis is more a complement to than a substitute for price theory. The point of departure in Williamson's analysis is not the subject matter of the sale/purchase transaction (goods or services) but the transaction or transfer system itself. The transaction is an exchange between two or more individuals whereby they transfer 'property rights' (that is, rights to dispose of scarce resources, which may be limited not only by other individuals' ownership rights but also by rules of legal liability and the provisions of competition law). Transactions differ perceptibly so far as costs are concerned and these differences in transaction costs influence the choice of the right organisational form or 'governance structure'. The transaction cost approach is thus concerned with the costs which are necessary to maintain the economic system. To put it briefly: markets and firms are regarded as alternative instruments for implementing transactions (see Williamson, 1985, 1986). Colloquially, managers speak about the 'make or buy' decision.

Indeed, whether a transaction to acquire a good or service is carried out over the market or within the firm depends on the relative efficiency of these two institutions. A hierarchical form of organisation may be superior to a market-based solution. The relative efficiency of the two forms is determined on the one hand by the costs of entering into and carrying out agreements in a market, and on the other hand by the characteristics of the individuals who are affected by the transaction. As such, the origins of transaction cost economics go back at least to Coase (1937), who in his classic essay laid the foundations for the new institutional economics. Markets and firms are indeed institutional forms, and their existence and survival are explained out of economic efficiency. The use of one mode or the other for a particular type of transaction directly follows from the relative costs of operating over one system or the other. As such, the laws which regulate and interfere with these institutions will also be judged in the long run by economic efficiency. If legal rules make it more difficult to operate over a particular institution (for instance competition policies which forbid vertically integrated firms), that institution will lose appeal and vanish, together with the law that regulated it.

Transactions differ from each other in a number of respects: the uncertainty to which the transactions are exposed, the frequency with which the transactions are repeated (once, occasionally, regularly) and the extent to which transactions must be supported by transaction-specific investments ('asset specificity'). By asset specificity Williamson means the extent to which suppliers and customers must make specific investments in order to be able to carry out the transactions.

Transaction-specific investments bind the supplier and the customer closely together. If the supplier cannot readily exploit his specific investments elsewhere and the purchaser, because of his specific investments, cannot readily place his order elsewhere, the supplier and the purchaser are bound to each other for a substantial period of time. This leads to situations in which market participants are very much dependent upon each other ('small numbers exchange').

The importance of transaction costs depends on human factors such as the limited possibility to solve complex problems and 'opportunism'. Opportunism follows straightforwardly out of the pursuit of self-interest in environments characterised by incomplete information or the lack of repeated transactions, making it simply not worthwhile to care for reputation. As already argued above, game theory has allowed the investigation of such moral hazard problems. And more recently game theory also has allowed the analysis of bounded rationality phenomena (see Young and Foster, 1991).

Transaction cost economics has important implications for antitrust policy. Certain market structures might be the result of transaction cost efficiencies, not the strive for market power. A welfare-maximising anti-trust law then must take into account these efficiency aspects. In the context of the control of concentrations it is necessary to consider what transaction cost savings will be prevented by a merger prohibition and whether these (possible substantial) costs are compensated by the anticipated advantages of more intensive competition. Vertical integration or vertical restraints can be the result of complex negotiations aiming at the reduction of transaction costs.

As a conclusion for this section, it is clear that game theory has entered the field of industrial economics to remain as a dominant supplier of tools to analyse sectors and industries. For the moment, the problem is not that the new industrial organisation is not very accurate but, on the contrary, that for nearly each different sector studied the assumptions and solution concepts of the models have to be adapted. This is of course mainly a problem for the laymen who lack the game theoretical knowledge to analyse industries, or to judge the quality of studies done by others. The plethora of models around does not make it easy to pick a model and be sure that it is appropriate for the sector under investigation. But things are changing quickly as, from the empirical side, the new empirical industrial organisation and the bounds approach are providing a workable synthesis.

6. The New Empirical Industrial Organisation and the Bounds Approach

The new empirical industrial organisation has tried to resolve the problem of indeterminacy in the new industrial economics, by leaving it open as to what kind of conduct prevails in an industry. The general idea is that industry structural elements can be measured and modelled, hence one starts from theoretical models of a sector. As such, conduct which is much harder to know *ex ante* is left open to be determined empirically.

The divergence of industries necessarily calls for sector-specific models. Usually the fundamental ingredients are specifications of supply and demand, modified and augmented with industry-specific features. Estimation based on time series analysis allows the identification of market power, that is to separate the effects of cost changes from mark ups.

The new empirical industrial organisation is a great leap forward for antitrust practitioners, as it allows the simulation of the effects of mergers and the detection of collusive behaviour. Models for an increasing number of industries become available, as we have witnessed since the pioneering studies applications to the cigarette industry (see Sullivan, 1985), automobile industry (see Berry, Levinsohn and Pakes, 1995; and Verboven, 1996), steel industry (see Baker, 1989), soft drinks (see Gasmi, Laffont and Vuong, 1992), and many others.

The problem with this approach is that models do not already exist for every sector. Hence, an open industry in terms of publishing and communicating data might face a study which is at the disadvantage of the sector, whereas in other sectors collusion is much more important, but remains unknown. Moreover, often these studies will have to rely on historical data, hence it might not be appropriate to study a merger today in view of conduct a few decades ago. On the other hand, the pioneering studies by Panzar and Rosse (1987) and Porter (1983) offer many perspectives in that they have been applied successfully to many sectors without too much re-modelling.

A similar effort to find robust results, that is results that can be applied to every industry under consideration is Sutton (1991). This approach is even more generally applicable, at the expense however of having to incorporate some degrees of freedom as to what can happen. Typically, one will only be able to say within which boundaries a sector will move, without being precise as to where it will be. Or, only an upper and lower bound to concentration will result. As such, this approach tries to provide the foundations for the S-C-P paradigm, but immediately shows how shaky the traditional Harvard approach was when it claimed it could make exact predictions regarding the impact of market structural changes such as concentrations.

While some claim that many factors that are identified to be important in explaining market structure and the evolution of concentration could have been written down without all the theoretical efforts by Sutton, the old Harvard

approach simply never has done it. Moreover, the explicit game-theoretic foundations used by Sutton illustrate the importance of adequate modelling of product differentiation, commitment, sunk costs and so on. It also shows the exact relation in which those factors relate to one another. Indeed, the Harvard approach mostly has looked for causal relations between variables that all are endogenous if one truly understand the dynamics of competition. This is mainly due to feedback effects of market performance variables, a fact well known in the European tradition on industrial organisation (see Jacquemin and De Jong, 1977).

7. The Influence of Economics on Antitrust Law

In the last part of this contribution it will be investigated how far economic theory and concepts of industrial economics have had an influence on antitrust law. It seems fair to say that American antitrust law has been influenced by a constantly increasing and ever more penetrating use of economic theory, whereas the influence of economics on European competition law has remained rather modest. At present there are remarkable differences between American and European law with respect to the treatment of some hot issues in antitrust, such as predatory pricing and merger control. These differences may be attributed to at least two reasons. The main goal of European competition law (Articles 85-86 EC Treaty and Regulation 4064/89) has always been the promotion of market integration. A similar goal is absent in American antitrust law, since the latter rules came into being when a common market was already established. It was mainly political necessity, rather than economic theory, that made an active competition policy necessary in the eyes of the authors of the EC Treaty. The elimination of market compartmentalisation caused by restrictions on competition was necessary in order to achieve the central objective of integrating national markets. This aim of market integration is essential for an understanding of the principal characteristics of European competition law.

The emphasis put on market integration has enabled European policymakers to avoid a profound debate about the values or objectives underpinning the competition rules of the EC Treaty. Consequently, the view of the Chicago School that productive and allocative efficiency are the only objectives which may be taken into account in interpreting and applying antitrust law could not get a firm basis in Europe. To a large extent, European competition law is at the same stage of development as American antitrust law was in the 1960s (see Van den Bergh, 1996). However, there are some first signs of a greater willingness by the European Commission to make use of economic theory (for example, with respect to the analysis of vertical restraints (see European Commission, 1997, pp. 19-31). It would, however, be wrong to label the latest developments in Europe as a victory for economic efficiency. Compared to American antitrust law European competition law still is less

consistent with an efficiency based approach. Neither the European Commission nor the Court of Justice are sufficiently receptive to economic arguments, so that decisions and judgements are often formalistic and based on reiteration or expansion of early case law.

7.1 United States of America

Although there may be disagreement as to the origins of the oldest competition legislation - the American Sherman Act of 1890 - it is clear that the Act was based not only on political objectives but also on the dominant economic theory at the end of the nineteenth century (see Sullivan, 1991). The economic objectives of the Sherman Act can be traced back to classical economics, which define competition as a process of rivalry taking place between large and small competitors in open and accessible markets. Consequently, the Sherman Act prohibits all 'contracts, combinations and conspiracies' which hinder trade, together with business conduct aimed at achieving a monopoly position by excluding competitors. In neoclassical economic theory the concept of 'perfect competition' was developed. Perfect competition is a situation in which the possibility of competitive behaviour in the Smithian sense is ruled out by definition. To some European authors the concept became a blueprint for competition policy (see, for example, Eucken, 1949), but the model was not used as a policy guideline in the USA. The same is true for the early theories of imperfect competition (Robinson, 1933, 1964) and monopolistic competition (Chamberlin, 1933), which did not have a clear influence on American antitrust policy either.

The influence of economics on antitrust law increased dramatically, once the Harvard School had articulated the basic perceptions of industrial organisation theory in the well-known SCP paradigm and claimed to be able to explain the relationships among these three variables. This, together with the emergence of the new competitive ideal of *workable competition* had a clear influence upon competition policy. The concept of workable competition came about as a result of the publication, in 1940, of John M. Clark's classic article. Clark denied that the ideal of perfect competition could serve as a blueprint for competition policy. Furthermore, Clark emphasised that, in the long run, market imperfections were not bound to be injurious *per se*. Not all market imperfections should be eliminated by competition policy, for market imperfections can neutralise each other (the antidote theory). Clearly, antitrust authorities will enjoy broad discretionary powers if competition policy must not eliminate all persistent market imperfections but should instead judge only to what extent an industry is workably competitive. Discretionary powers of antitrust authorities are further increased when antitrust law is also supposed to include non-economic objectives, as was the case with the Harvard School's view in the 1950s-1960s. A complete and orthodox description of the Harvard

views at that time is provided in Kaysen and Turner (1959). Kaysen and Turner distinguished no less than four objectives of competition policy: to achieve favourable economic results; to create and maintain competitive processes; to prescribe norms of 'fair conduct' and to restrict the growth of large firms. These objectives are partly inconsistent with each other and thus provide for large discretionary powers to be exercised by antitrust authorities. The Harvard analysis became the cornerstone of competition policy in the 1960s and remained so until the neoclassical and neoinstitutional approaches began to win the upper hand in the mid 1970s. Nowadays very few antitrust scholars in the United States believe that non-economic factors should pay any role whatsoever in antitrust analysis.

In the light of the relationship between market structure, market conduct and market results, competition law became an instrument for generating optimal outcomes by directly influencing market structure (merger control). If prices increase as a result of market concentration, then mergers must be closely scrutinized. In the 1968 Merger Guidelines of the American Department of Justice it was stated that an analysis of market structure was fully adequate for showing that the effect of a merger, as spelled out in Section 7 of the Clayton Act, 'may be substantially to lessen competition, or to tend to create a monopoly' (US Department of Justice, 1968). The Department announced that its merger policy would focus on market structure 'because the conduct of the individual firms in a market tends to be controlled by the structure of that market'. Following the Harvard views, only in exceptional circumstances would structural factors not alone be conclusive (for example in the case of conglomerate mergers). With respect to horizontal mergers, the 1968 Merger Guidelines used the CR 4 ratio as market concentration measure: when the shares of the four largest firms amounted to approximately 75 percent or more, the market was regarded as highly concentrated. The Department announced that mergers should be challenged when the market shares of both the acquiring firms and the acquired firms exceeded a certain threshold: for example, in highly concentrated markets mergers between firms both accounting for approximately 4 percent of the market would be challenged; in less highly concentrated markets a 5 percent market share for both the acquiring and the acquired firm was used as the relevant threshold (US Department of Justice, 1968).

The Chicago School acquired a strong influence on American antitrust policy from the 1970s onwards and reached the apogee of its influence in the 1980s. A number of examples appropriately illustrate the altered judgement on forms of market conduct which, until the Chicago School emerged, seemed to cause competition problems but which, through the renewed application of price theory, no longer give rise to problems. The Harvard School was very critical of vertical restraints; the orthodox view proposed a strict '*per se* illegality' for vertical price-fixing and tying (Kaysen and Turner, 1959, pp. 148-160). The Chicago revolution began when, in 1960, Telser published an

article on vertical restraints which has since become a classic. In this essay the *free-rider* problem played a central role in explaining vertical price-fixing (see Telser, 1960, and Marvel and McCafferty, 1984, who added a quality certification argument). The free-rider rationale is not only used in the analysis of vertical price-fixing but has been extended by the Chicago School authors to other intra-brand restraints such as the reservation of exclusive sales territories and exclusive sales channels (selective distribution, franchising). The most far-reaching proposal of Chicago scholars was to introduce '*per se* legality' for restricted distribution (Posner, 1981). Protection against free-riding may also explain interbrand restraints, such as exclusive dealing. Exclusive territories address the free-riding of one dealer on the efforts of another, whereas exclusive dealing addresses the free-riding of one manufacturer on the efforts of another (see Marvel, 1982). In deciding about the lawfulness of vertical restraints the American Supreme Court has been influenced by the Chicago analysis. The assessment of vertical restraints has wavered back and forth between the *rule of reason* and *per se* unlawfulness. In 1963 a majority of the Supreme Court held that vertical restraints did not necessarily violate the antitrust laws and were therefore subject to a *rule of reason* test (*White Motor Co. v. United States*). Four years later, the Supreme Court enunciated a clear-cut, but formalistic, distinction between restraints imposed by a manufacturer who retained ownership of the goods in question, and those imposed by a manufacturer after parting with ownership. If a manufacturer parts with ownership over his product or transfers risk of loss to another, he may not reserve control over its destiny or the conditions of its resale *(United States v. Arnold, Schwinn & Co.)*. Then in 1977 the Supreme Court made clear that 'departure from the rule-of-reason standard must be based upon demonstrable economic effect rather than … upon formalistic line drawing'. In so holding the Court drew also on the academic writings of the Chicago School. It would be premature, however, to consider the case-law of the American Supreme Court as a victory for the Chicago School analysis. The readiness of the American judiciary to apply the rule of reason does not extend to minimum vertical price-fixing. With respect to maximum resale prices the rule only recently shifted from a *per se* prohibition to the reasonableness standard (*State Oil v. Kahn*, Slip op. at 5).

In the United States the Chicago learning has clearly influenced the analysis of predatory pricing. In the *Matsushita* case (in which American manufacturers of consumer electronic products accused Matsushita of combining with other Japanese manufacturers to monopolize the American market through predatory pricing), the Supreme Court quoted a number of publications by disciples of the Chicago view in support of its rejection of price-undercutting as a rational (that is, profit-maximising) economic strategy. The Supreme Court emphasised that a campaign of predatory pricing can be rational only if, after the elimination of the target, there remains sufficient monopoly power to raise prices and thus

generate additional income. Given that in the *Matsushita* case it was improbable that the purpose of the predatory pricing could be achieved, the majority concluded that the price-undercutters 'competed for business rather than to implement an economically senseless conspiracy' (*Matsushita Elec. Indus. Co. v. Zenith Radio Co.*).

In recent American case-law economic arguments are playing an ever more important role, but the Supreme Court seems no longer willing to blindly follow the Chicago approach. Antitrust defences based on Chicago ideas may be rejected using counter-arguments which are similarly economic in nature and largely based on criticisms towards the assumptions underlying the Chicago analysis. The Kodak case provides an interesting example (*Eastman Kodak Co. v. Image Technical Services, Inc. et al.*). Independent service organisations complained that Kodak had limited the availability of its proprietary spare parts, thus monopolising the market for the servicing of Kodak equipment. Kodak's defence was primarily based on the argument that if there was competition in the primary market, then aftermarket power should have little adverse effect on consumers. The argument was similar to the Chicago School's view that it is not possible for a dominant firm to achieve monopoly profits twice: the so-called leverage hypothesis was rejected already in the early days of the Chicago School (see Bowman, 1957). If a manufacturer raises the price of maintenance services, it can only do this - so Kodak argued - at the expense of lowering the initial purchase price of the equipment. The Supreme Court rejected this Chicago-inspired argument and demonstrated that consumers were not able to calculate lifetime cost with any accuracy, either because necessary information was not available to them or because of 'bounded rationality'. Thus the Supreme Court made clear that the Chicago analysis of tying arrangements only holds under conditions of perfect information.

Chicago theorists also exerted a clear influence upon American merger policy. The current 1992 Merger Guidelines are evidence that many concepts that started out as Chicago School concepts are now embraced by almost all of the US antitrust community. Throughout the Guidelines the analysis is focused on whether consumers or producers 'likely would' take certain actions, that is whether the action is in the actor's economic interest. This reflects the concern to explain, rather than to merely describe, behaviour in (concentrated) markets, in order to be able to avoid inappropriate regulatory interventions. Intervention by the antitrust authorities is also geared to the goals of allocative efficiency: merger control should prevent that prices are raised above competitive levels for a significant period of time. Market power is defined accordingly. To create or enhance market power or facilitate its exercise, the merger must significantly increase concentration. The concentrated market must be properly defined and measured; the Guidelines pay considerable attention to the difficult problem of market definition. As a measure of market concentration the HHI index is used,

instead of the CR4. If concentration increases significantly, the American antitrust agency will assess whether the merger raises concern about potential adverse competitive effects. It is stressed that market share and concentration data provide only the starting point for analyzing the competitive impact of a merger. Hasty conclusions from market structure of performance are thus overcome. A merger may diminish competition by enabling the firms selling in the relevant market more likely, more successfully or more completely to engage in coordinated interaction that harms consumers (tacit or express collusion).

Mergers may also harm consumers if they create conditions conducive to reaching terms of coordination or conditions conducive to detecting and punishing deviations. If the merger raises significant competitive concerns, the antitrust agency will examine whether market entry may counteract the competitive effects of concern. At this point of the analysis the Chicago influence is obvious: Chicagoans stress that the possibility of market entry may prevent the post-merger firm from earning above-normal profits. Following this view, the Guidelines state that mergers in markets where entry is easy raise no antitrust concern. Entry is considered as 'easy' when it passes the tests of timeliness (entry must take place within a timely period), likelihood (entry must be profitable) and sufficiency (entry must be sufficient to return market prices to their pre-merger levels). The analysis of entry conditions will not yet complete the analysis. Efficiency gains of the merger will next be assessed. The Guidelines explicitly state that the primary benefit of mergers to the economy is their efficiency-enhancing potential, which can increase the competitiveness of firms and result in lower prices to consumers: 'As a consequence, in the majority of cases, the Guidelines will allow firms to achieve available efficiencies through mergers'. Finally, it will be examined whether, but for the merger, either party to the transaction would be likely to fail, causing its assets to exit the market (failing company defense). The ultimate question whether the merger is likely to cause prices above competitive levels for a significant period of time will thus only be answered after an assessment of market concentration, potential adverse competitive effects, entry, efficiency and failure (US Department of Justice, 1992).

7.2 Europe

Notwithstanding the fact that it is unlikely that the authors of the Treaty of Rome were aware of the concept of *workable competition*, many of the distinguishing features of European competition policy seem to fit into this theoretical framework. It is noteworthy that the European Court of Justice, in its leading *Metro* judgement, referred to the concept of *workable competition* as being the type of competition that was necessary to achieve the economic objectives of the EC Treaty (*Metro v. SABA and Commission*). The judgement was concerned with the lawfulness of selective distribution agreements. Once

technical and luxury products are sold - for resale - only to recognised distributors, there can no longer be any question of a market which accords with the model of perfect competition. On the other hand, it is indeed possible to speak of workable competition. The European Court of Justice emphasised that price competition is not the only form of competition for wholesalers and retailers. It considered that it was in consumers' interests for prices to be set at a certain level in order to be able to support a network of specialised dealers alongside a parallel system of dealers who themselves provide services and undertake other actions to keep distribution costs down. This choice is open to certain sectors in which high-quality, technically advanced and durable goods are produced and distributed.

The manner in which the concept of workable competition acquired specific content can, by way of example, be further examined by studying present-day law in relation to selective distribution systems (for an overview, see Goyder, 1993). Provided the only criteria for selecting a distributor are objective, qualitative ones relating to his technical qualifications, his staff and his firm, and these criteria are determined uniformly for all distributors; and provided, furthermore, that they are applied in a non-discriminatory manner, the agreement is not regarded as restricting competition within the meaning of Article 85(1) EC Treaty. In order to establish the precise nature of such qualitative criteria for the selection of distributors, it is necessary to consider whether the characteristics of the product require a selective distribution system in order to maintain the quality and the proper use of the product. It is also necessary to examine to what extent these aims can already be accomplished by national regulations concerning access to the distributor's profession or the conditions under which the products in question may be sold. Finally, one must answer the question of the extent to which the criteria thus determined are necessary in order to achieve the objective of improved quality. The European Commission has approved selective distribution systems for, for example, cars, television sets, watches and personal computers. It is evident that selective distribution agreements make resale to non-recognised dealers in other EC countries impossible, but the European Commission has nothing against this so long as exports within the selective distribution channels continue unhindered. By contrast, with the strict prohibition against absolute territorial protection in exclusive distribution agreements, increasing interbrand competition is balanced against the restraints inherent in intra-brand competition. Inter-brand competition guarantees consumers' freedom of choice so long as access to the relevant market, or the competition within it, is not restricted to a significant extent by the cumulative effects of parallel networks or by similar agreements between competing producers or distributors. It is therefore necessary, when judging selective distribution systems, to take account of competition between competing systems of distribution. When selective distribution goes hand in hand with a quantitative restriction on

recognised resellers the Commission will, as a rule, give full effect to the prohibition against cartels.

The fact that the economic doctrine of the Chicago School has not influenced European competition law is clearly apparent from the decisions in *AKZO* and *Tetra Pak II*. The Court of Justice accepted a price-cost comparison as the yardstick by which to establish predatory pricing. Abuse of dominant position must be deemed to be present once prices fall below the level of average variable costs. According to the Court of Justice, a firm with a dominant position will always suffer losses if it charges such prices and it will have an interest in doing so only if it is aiming to exclude competitors in order to profit thereafter, by means of price increases, from the monopoly it has achieved. Furthermore, the Court of Justice considered that prices which are higher than average variable costs but lower than average total costs must be considered as unlawful to the extent that the fixing of prices at that level forms part of a strategy of excluding competitors. According to the Court of Justice, such prices can exclude from the market firms which, while just as efficient as the dominant firm, do not possess sufficient financial resources to enter such a price war. One can detect in this last argument the 'deep pocket' reasoning which has been discredited in the Chicago-oriented economic literature.

In the event that the prices of the defendant firm are lower than average variable costs, there exists an irrefutable presumption of prohibited price-undercutting (predatory pricing). The European Court therefore adopts a stricter attitude towards price wars than the American judges do. Once prices are higher than average variable costs but lower than average total costs, supplementary evidence must be adduced in order to establish incontrovertibly the existence of a strategy aimed at the exclusion of competitors. From the Court's further reasoning it seems that making threats, asking 'unreasonably low prices', maintaining artificially low prices over long periods and granting fidelity rebates can, together, provide the necessary supplementary evidence. In the AKZO case the Court relied heavily on the subjective evidence of intention on AKZO's part (*AKZO v. Commission*). According to the Court, AKZO's intention was clearly aimed at annihilating ECS (the target of the price war) because AKZO's prices were not fixed in order to respond to competition from ECS but turned out in fact to be significantly lower.

The weakest point both in the Commission's reasoning and in that of the Court of Justice's is that in neither of them was it adequately demonstrated that AKZO's so-called predatory pricing could have succeeded. In the Chicago view an essential condition for considering predatory pricing as a rational competitive strategy is that the price-undercutter can recoup his losses after driving the target from the market. The longer the price-undercutting lasts, the larger the accumulated losses will be. Also, it will be very difficult or impossible to recoup the losses if potential new entrants to the market have to

be borne in mind. Neither the Commission nor the Court of Justice gave sufficient consideration to these factors. In 1994, the European Court of First Instance had an opportunity to reconsider the position in *Tetra Pak II*, for the Commission's finding that Tetra Pak had practised predatory pricing was specifically challenged by reference to the economic theory accepted in the most recent American case-law. Tetra Pak argued that, even if it had priced its products under cost, it could not have been indulging in predatory pricing because it had no reasonable hope of recouping its losses in the long term. The Court, however, upheld the Commission's finding without any serious examination of this argument, holding that, where a producer charged AKZO-type loss-making prices, a breach of Article 86 EC Treaty was established *ipso facto*, without any need to consider specifically whether the company concerned had any reasonable prospect of recouping the losses which it had incurred (*Tetra Pak International SA v. Commission*).

Finally, in the field of merger control the emphasis of the inquiry is on whether the concentration 'creates or strengthens a dominant position' (Reg. 4064/89). This clearly reflects the Harvard ideas that the structure of the market has an impact on the ultimate performance of the market. There is no explicit efficiency defence. Efficiencies are often seen as evidence of market power, rather than as benefits which may outweigh the anti-competitive consequences of mergers (see Neven, Nuttall and Seabright, 1993).

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