Economic Approach to Counteracting Cartels

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University of Warsaw, Faculty of Management Press

2009

YEARBOOK
of ANTITRUST
and REGULATORY
STUDIES
www.yars.wz.uw.edu.pl

Peer-reviewed scientific periodical, focusing on legal and economics issues of antitrust and regulation.

CSAiR
Centre of Antitrust and Regulatory Studies,
University of Warsaw, Faculty of Management
www.wz.uw.edu.pl

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by

Anna Fornalczyk*

CONTENTS

Abstract

Horizontal agreements between competitors concerning price fixing, quotas, distribution and/or supply market share – cartels – represent the most severe form of competition law infringement. Why are these agreements subject to the highest fines and, in some countries (USA, Canada, Mexico, UK), subject to both fines as well as imprisonment? What are the economic grounds for such severe punishment? How important is an economic analysis for the results of anti-cartel proceedings considering that they are prohibited *per se*, that is, absolutely and unconditionally? Does growing market concentration and resulting transparency increase the significance of the economic approach to the evaluation of market effects of the behaviour of business? Which methods make it possible to differentiate cartels from competition in oligopolistic markets including economic and econometric analyses? This paper will present an answer to the aforementioned questions on the basis of literature studies, an analysis of Polish case law between 2000–2009 as well as the author's extensive experience in the field of antitrust consultancy.

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Classifications and key words: cartels, collusions, explicit and tacit collusions, transparent markets, relevant markets, anti-competitive agreements.

I. Economic dimension of cartels

The Polish Competition and Consumers Protection Act of 2007[1] (thereafter the Act of 2007) protects competition as a public interest similarly to the situation found in other EU countries. Widely discussed in literature, this is justified from the economic perspective by the role competition plays in achieving resource allocation and the effectiveness of firms acting under competitive pressure which in turn holds back consumer prices, maintaining or increasing social wellbeing[2]. Some believe, that competition not only facilitates effectiveness and stops price increases but also serves other goals such as the EU's aim of "[m]arket integration, openness, control of dominance, fairness, and competitiveness, the growth of efficient, dynamic and responsive firms for the sake of European economic strength in world markets"[3].

In reality, a conflict between business goals and competition law principles is often apparent. Competition law finds justification in microeconomic theory, and not only in the concept of social deadweight loss[4], but also in the concept explaining the essence, reasons and ways to minimize market failures[5].

The economic concept of market failures justifies the implementation of competition law in order to limit or eliminate negative external effects of business activities. These effects are associated with the exercise of monopolistic practices. Entrepreneurs base their businesses on a cost-benefit analysis, which may suggest the profitability of practices consisting of an abuse of dominance and/or of the conclusion of an agreement stabilising their own market position by restricting competition. Polish entrepreneurs are quite frequently unaware

[1] Journal of Laws 2007 No 50, item 331, with subsequent amendments.

[2] H.R. Varian, *Mikroekonomia*, Warszawa 1997, p. 560–573; L.M.B. Cabral, *Introduction to Industrial Organization*, Cambridge 2000, p. 252–254.

[3] E. Fox, *The Competition Law of the European Union In Comparative Perspective*, St. Paul, MN, West Publishing Co. 2009, p. 31.

[4] E. Czarny, E. Nojszewska, *Mikroekonomia*, Warszawa 2000, p. 152–153.

[5] O.E. Williamson, *Markets and Hierarchies. Analysis and Antitrust Implications*, New York 1983, p. 5–6; W.J. Baumol, A.S. Blinder, *Economics Principles and Policy*, San Diego 1988, p. 648; J.E. Stiglitz, *Economics of the Public Sector*, New York 1988, p. 71–81; E. Czarny, E. Nojszewska, *Mikroekonomia*, p. 348–373.

of the fact that economically acceptable and rational business actions may in fact infringe competition law[6].

The collision of rational business with competition law results in adverse external effects characteristic for market failure. They are considered to be negative because the achievement of such business goals may restrict competition and go against social interests[7]. The external character of such effects can be traced back to the fact that the losses incurred by other market players (competitors, consumers) are not included in the cost-benefit analysis carried out by the entrepreneur pursuing a monopolistic practice. In fact, the exercise of such practices constitutes a "zero-one" game seeing as entity (entities) involved in monopolistic practices benefits from them at the expense of other market players.

It is hard to imagine that entrepreneurs would assess external losses associated with their practices and include them in their own cost-benefit analysis as applied, for instance, in the case of environmental charges. Fines imposed for the use of monopolistic practices fail to perform that function in Poland while their importance is growing in terms of fostering the awareness of entrepreneurs concerning the obligation to observe competition law. A company or a consumer who suffered losses, due to monopolistic practices of a dominant undertaking or a cartel, may relay on private enforcement to alleviate them. However, while private enforcement is popular in the US and gaining importance in Europe, the lengthiness of court suits remains a strongly deterrent for private enforcement in Poland.

Restricting market power resulting from a dominant position or cartel requires state intervention. In case of Polish competition law, this translates into the opening of explanatory and/or antitrust proceedings by the President of the Office of Competition and Consumers Protection (hereafter, President of UOKiK). Mentioned here should be however the administrative weaknesses formulated by J. Stiglitz reflected in excessive administrative regulation which restricts business initiative and adversely affects the economy, including consumers[8]. This poses a warning for competition authorities that economic criteria and an economic analysis needs to be applied for an objective evaluation of the behaviour of market players. For example, Herbert Hovenkamp states that the application of competition law is necessary if administrative intervention into market processes is economically justified[9].

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[6] *Znajomość prawa o ochronie konkurencji i zasadach przydzielania pomocy publicznej wśród polskich przedsiębiorców*, UOKiK, Warszawa 2009, p. 14, 59–60.

[7] R. Whish, *Competition Law*, London, Edinburgh 1993, p. 127.

[8] J.E. Stiglitz, *Economics*..., p. 5–6.

[9] H. Hovenkamp, *The Antitrust Enterprise. Principle and Execution,* Harvard 2005, p. 10.

Particularly in the US, the issues of an economic justification for the application of competition law has been a topic of dispute for decades between liberals and the representatives of a structural approach to market behaviour of companies. The liberal economists of the Chicago and post-Chicago School believe that, except for the monitoring of large concentrations and cartels, administrative intervention in anti-competitive business behaviour is unnecessary. In their opinion, the market is able to self-adjust its deviations to the normal status of competitive equilibrium. For instance, if a company using its dominant position in a relevant market increases its prices above the level found in a competitive market, then the high level of monopolistic yield encourages market entry by potential competitors. The post-Chicago School furthers the market behaviour concept using game theory, more sophisticated analyses based on market information asymmetry, the economy of scale and the concept of rising rival's costs[10].

Microeconomics explains it as generating economic profit when inter-sectorial differentiations cause capital flows from less to more effective applications until the economic profit reaches zero level, where the economy is in competitive equilibrium[11]. This process is limited by entry and exit barriers[12]. The higher the barriers, the more difficult it is for a potential competitor to enter a market characterised by high economic profits – businesses operating in that market maintain their market power and benefit from monopolistic profits. This fact is frequently the reason for companies to create and maintain barriers of administrative, structural or strategic nature.

Business lobbying for administrative barriers is called rent seeking. Structural barriers result from technological processes and translate into economic terms of demand for material, personal and financial resources the size of which differs in various sectors (thus they are called objective barriers). Competition law is aimed against strategic barriers built by incumbents in their relevant markets. An agreement between competitors operating in a particular market may effectively close that market for potential competition, enabling parties to that agreement to apply monopolistic practices and achieve profits thereof.

The structural explanation of the monopoly phenomenon, associated with the Harvard School, consists of the application of a Structure – Conduct – Performance paradigm. This paradigm, also known to organisation and management theory, leads to the conclusion that companies operate within the limits set by market structure[13]. Competition authorities are thus required

[10] Ibidem, p. 31–91.

[11] K. N. Hylton, *Antitrust Law. Economic Theory & Common Law Evolution,* Cambridge 2003, p. 9.

[12] J. Bain, *Barriers to New Competition*, Augustus M. Kelly Publishers, USA 1993.

[13] H. Hovenkamp, *The Antitrust Enterprise…*, p. 33–35.

to preventively monitor concentrations so as to prevent the creation of business structures facilitating monopolistic practices seeing as it is better to prevent the occurrence of market conditions generating such practices than to counteract the practices themselves. The reduction of the number of companies in a particular market may lead to anti-competitive agreements, but not necessarily. It is long since it was noted that, in a transparent market, conscious parallelism may appear as a consequence of independent decisions of businesses operating in that market concerning their prices and production volumes[14]. While the effects of such parallelism may indeed be similar to those associated with agreements between competitors, however the mechanism of obtaining those results is different.

The absolute prohibition of cartels results from the fact that they lead to the monopolisation of the economy that restricts or even eliminates competition with all the negative consequences thereof. It is also important that the organisation of a cartel is more time and cost efficient than building a dominant position by a company in its own relevant market[15]. This justifies the implementation of particularly severe restrictions against agreements between competitors aimed at price fixing, setting production and sales quotas, sharing markets, setting other terms of trade or the exchange of sensitive information[16].

Articles 6 and 7 of the Act of 2007 contains a prohibition of agreements "[w]hich have as their object or effect the elimination, restriction or any other infringement of competition on the relevant market shall be prohibited, in particular those consisting in:

1) fixing, directly or indirectly, prices and other conditions of purchase or sales of products,
2) limiting or controlling production or supply as well as technical development or investments,
3) sharing markets of supply or purchase,
   (…)
7) collusion between entrepreneurs entering a tender, or by those entrepreneurs and the entrepreneur being the tender organiser, of the terms and conditions of bids to be proposed, particularly as regards the scope of works and the price".

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14 J.A. Rahl, "Conspiracy and the Anti-Trust Laws" (1950) 44 *Illinois Law Review* 743.

15 H. Hovenkamp, *The Antitrust Enterprise…*, p. 125.

16 R. Whish, *Competition Law*, p. 127; R.A. Posner, F.H. Easterbrook, *Antitrust Cases. Economic Notes and Other Materials,* West Publishing 1981, p. 96–98; M. Motta, *Competition Policy. Theory and Practice,* Cambridge 2005, p. 137; A. Fornalczyk, *Biznes a ochrona konkurencji*, Kraków 2007, p. 85–86; Zmowy cenowe, UOKiK, Warszawa 2009, p. 11; M. Bernatt, A. Jurkowska, T. Skoczny, *Ochrona konkurencji i konsumentów*, Warszawa 2007, p. 59.

The aforementioned examples of anti-competitive agreements are not covered by the three legislative exemptions: a) the *de minimis* exemption, b) the rule of reason, and c) block exemptions.

Of direct relevance to cartel proceedings is the fact that the Act of 2007 treats the intention to restrict or eliminate competition in a relevant market (purpose of an agreement) as an action infringing competition law, irrespective of its implementation (effect of an agreement). Establishing such an aim requires an examination whether it appeared in written and/or oral agreements or in documents containing reports of the meetings of the representatives of an alleged cartel. Herbert Hovenkamp called this approach as "fundamentally subjective". It is characteristic to the legal approach associated with cartels. Economists do not see cartels through the prism of written or oral agreements but evaluate them from the point of view of the market structure and the strategy executed by their alleged members. Hovenkamp called the economic approach to cartels as "fundamentally objective"[17].

II. Counteracting cartels in the decisions of the President of the Office of Competition and Consumers Protection

The majority of the decisions of the Polish UOKiK, known as the Antimonopoly Office between 1990-1995, concerns the preventive monitoring of concentrations and a small percentage relates to cartels (anti-competitive horizontal agreements). Nevertheless, the focus has now clearly shifted towards cartels especially since the Act of 2007 has eliminated motions (Articles 49 and 86) in favour of an *ex officio* initiation of competition law proceedings.

The decisions of the President of UOKiK against cartels can be classified into three categories:

a) counteracting price fixing and setting other terms of business activities by entrepreneurs associated in professional associations (Union of Polish Architects, Regional Pharmaceutical Chambers in Łódź and Poznań, Warsaw Veterinary Chamber, Polish Chamber of Electronic Communication),
b) agreements between entrepreneurs (sugar plants, producers of chemical fertilizers, taxi corporations, municipal utilities, funeral services, outdoor advertising agencies, yeast producers, local market management companies, press distribution agencies, real estate agencies),
c) tender agreements (furniture manufacturers, municipal waste management companies, companies renting mooring infrastructure, public transport companies).

[17] H. Hovenkamp, *The Antitrust Enterprise*…, p. 126, 135.

Currently underway are proceedings against an alleged cartel of cement producers and against an alleged cartel of waste management companies from Białystok, which is charged with setting binding terms in a tender announced by local authorities.

The UOKiK finds information necessary to establish a restriction of competition associated with fixing minimum fees for services provided by members of professional associations in draft statutes or already adopted by-laws of such associations as they contain provisions contradictory to Article 6(1)(1) of the Act of 2007. In the case of tender collusions, the information sources can be traced back to motions and/or notifications filed by the organisers of the tenders or by bidders not participating in the collusion.

The UOKiK acquires information concerning price fixing agreements, production quotas and/or market sharing from various sources: market research carried out by its office staff, information received from consumers and entrepreneurs who either supply or purchase goods allegedly regulated by a cartel and the leniency programme which is proving to be an effective new source of information for the authorities. New and effective source of information is the leniency policy, which was introduced in the European Union in 1996, and has been in force in Poland since 2004. Since then 16 leniency notices have been filed with the Office. The programme was enacted in Poland in February 2007 (Law: Article 109) and further developed by a Regulation of the Council of Ministers of January 2009. In 2009 the President of UOKiK published additional guidelines explaining the goals and application procedure of the programme.

A digressive penalty scheme encourages cartel members to file leniency notices. An entrepreneur will not be punished with a statutory penalty for participating in a cartel as long as it is not its initiator, as long as it is the first to provides the President of UOKiK with information on the cartel which is sufficient to initiate proceedings, and as long as the company quits the cartel upon filing the leniency notice. The second applicant, satisfying the aforementioned criteria, may have its penalty reduced by no more than 50%. The third may receive a 30% reduction while further applications might have their fines reduced by up to 20%.

The effectiveness of anti-cartel proceedings is reinforced by the statutory competences of the President of UOKiK to control and dawn raid the premises and/or goods associated with a cartel. That competence is subject to consent by the Polish Court for Competition and Consumers Protection granted, within 48 hours, upon the request of the President of UOKiK– the Court's decision in this respect cannot be appealed (Article 64). An actual dawn raid took place in May 2006 in the premises of eight cement producers "Polski

Cement" Association of Cement Producers and a legal bureau working for the Association[18].

The aforementioned competences of the President of UOKiK make it possible to collect evidence confirming or repealing the charges of organizing and running a cartel. However, they do not exclude the application of a thorough analysis characteristic for the "fundamentally objective" approach to the market conduct of entrepreneurs charged with cartel offences.

III. Role of economic analysis in anti-cartel proceedings

The evaluation of market consequences of alleged cartels is performed in two stages in the economics of competition law. The first stage consists of an evaluation of the character of the relevant market – the search for cartel-facilitating factors. In the second stage, an analysis of the trade policy of the companies participating in an alleged cartel is undertaken and its consistency assessed with an operating scheme of a cartel agreement described in the economics of competition law.

The economics of competition law mentions the following factors facilitating cartel collusions[19]:

a) level of market concentration – the higher is market concentration, the easier it is to organise a cartel,
b) high barriers to entry and exit the relevant market – the higher the barriers, the stronger the motives to enter into a cartel, the more durable the cartel and the longer the period of generating monopolistic profits,
c) insignificant market shares of small companies not participating in the cartel – they may not threaten the existence of the cartel by snatching customers from cartel members through underpricing and offering better terms of contract (e.g. payment terms),
d) price elasticity of demand – the higher the elasticity, the more difficult it is to fix high prices which generate expected yields for cartel members,
e) expected demand changes – for a member of a cartel, it is not worth going against a cartel agreement in order to increase its immediate profits when significant demand growth is foreseen for the cartel (growing market); this leads to a conclusion that on a mature market without prospects

[18] *Zmowy cenowe*, p. 27.

[19] H. Hovenkamp, *The Antitrust Enterprise*…, p. 132–133, M. Motta, *Competition Policy*, p. 142–159; R.A. Posner, F.H. Easterbrock, *Antitrust Cases*…, p. 336–346.

for significant demand growth, the motives for cartelization are weaker while the tendency to breach the price agreement is stronger,

f) product uniformity and standardisation – the more uniform and standardised the product, the stronger the tendency among entrepreneurs to enter into a cartel,

g) regularity and frequency of orders – the higher and the rarer the orders, the weaker the tendency to form a cartel and, should the cartel already exists, the stronger the tendency to breach cartel agreements,

h) market power of the consumers – the greater the negotiating power of the consumers, the weaker the tendency to conclude cartel agreement by the sellers and, should the cartel already exist, the easier it is to destabilize it by individual negotiations concerning prices and other contractual terms,

i) ratio of fixed costs in company operating costs – the higher the ratio, the stronger the tendency to form a cartel in order to reduce market risk,

j) market structure symmetry – the more symmetrical the market (with a limited number of market players), the stronger the tendency to form a cartel,

k) resale price fixing – the application of vertical restrictions facilitates the formation of a cartel as it increases the potential control over the distributors' price discipline,

l) ownership relations between companies – agreements concluded within a capital group are not subject to competition law unless such agreements adversely and severely affect competition in a relevant market[20].

Establishing the existence of cartel facilitating factors is considered to be the purpose of the relevant market analysis which requires the economic approach to determine: actual and potential competition (market barriers), price elasticity of demand, market development level, cost structure of the members of the alleged cartel and their market power as well as the market power of their customers. Probability of cartel formation is low on unfavourable markets however its analysis requires statistical data and information concerning the market under examination. This frequently proves a major barrier for the application of an economic analysis. Particularly in the Polish economy, market dynamics causes the relevant data to be impossible to compare in the longer term because it is not long since most companies introduced electronic accounting and statistics systems that could provide such data (in general, this is a period after the year 2000).

[20] S. Gronowski, *Ustawa antymonopolowa – komentarz*, Warszawa 1999, p. 78.

IV. Market transparency and cartels

Collusion among competitors may not only apply to price fixing, production quotas or market sharing. It may also affect, for example, exiting one relevant market with a guarantee of exclusivity on another, co-ordination of payment terms in transactions with consumers and/or suppliers or agreeing transport conditions for sold products (own or customer's transport). Independently from the issue of the 'object' of a collusive agreement, the application of competition law requires an examination whether a particular market conduct results from overt or tacit collusion. In the latter case, competition law shall not be applicable because, even though its market effects may seem similar to those of an overt collusion, entrepreneurs have neither met nor agreed upon their actions[21]. It is doubtful whether a convergence of market actions of competitors may at all be defined as collusion, even a tacit one.

Oligopolistic market structures, widely discussed in economic theory, are used in the economics of competition law[22]. Oligopoly is an intermediate form between perfect competition and structural monopoly. The main characteristics of oligopoly include:

a) limited number of producers and a large number of consumers,
b) barriers to entry, in particular, technological and/or economic ones but also administrative or strategic,
c) products offered in the market are usually close substitutes, even though they may be both homogeneous and heterogeneous,
d) producers and consumers have perfect information concerning the market – market is transparent.

A limited number of producers operating on an oligopolistic market translates into a relative ease of obtaining information about the relevant competitors. This is essential for increasing market transparency which may be facilitated by the following factors:

a) symmetry level – the closer market shares of the competitors, the more symmetric the oligopoly and the more transparent the market,
b) market concentration level – the more concentrated the oligopoly, the more transparent the market; market concentration is measured by market shares using the concentration rate or the Herfindahl-Hirschman

[21] M. Motta, *Competition Policy*, p. 137–138.

[22] H.R. Varian, *Mikroekonomia*, p. 471; P.A. Samuelson, W.D. Nordhaus, *Ekonomia*, vol. 1, Warszawa 1998, p. 769; J. Tirole, *The Theory of Industrial Organization*, The MIT Press 1988, p. 209; E. Czarny, E. Nojszewska, *Mikroekonomia*, p. 168–216; H. Hovenkamp, *The Antitrust Enterprise*…, p. 126-131; K. N. Hylton, *Antitrust Law*..., p. 21–23, 73–81; M. Motta, *Competition Policy*, p. 138.

Index – depending upon the number of competitors in the relevant market and the symmetry level of the oligopoly.

Conduct of competitors in an oligopoly is explained by the interdependence theory formulated by Augustin Cournot. In his model of product quantity equilibrium, Cournot described the interdependence between strategies of competitors in a particular form of oligopoly – a duopoly. His model was further developed by Heinrich von Stackelberg who presumed that one of the members of the duopoly knew that its competitor was following the principles of the Cournot model. Such a presumption leads to the "price-leader and price-follower" pattern[23].

Another model for analysing the equilibrium in a duopoly was formulated by Joseph Bertrand who examined the price interdependence of market behaviour of companies. From the perspective information collection in a transparent market, the Bertrand model seems to be more useful because it is easier to watch the prices of a company's competitors rather than the volume of their sales. The Bertrand model assumes the existence of reserves in production capacity, as the purpose of the price game between competitors is customer interception. Additional demand for cheaper goods may only be satisfied subject to production increase. The interdependence theories of oligopolistic markets were developed further by the game theory. A conclusion is drawn from the interdependence theory that conscious parallelism of decisions on prices and production quotas should not be treated as collusion and, consequently, as an illegal action subject to competition law enforcement[24].

Interdependence (generating market followers) is reached through market research and strategic planning, or even by playing a sophisticated business game in order to mislead other market players. Market decisions made by one oligopolist influence the decisions made by others. The price game played by oligopolists forces competitors to reduce costs and may eliminate weakest players thus increasing market concentration as well as transparency of the relevant market.

In case of an oligopoly offering homogeneous products (such as cement, steel or flour), the product brand is not the key determinant for customers – instead they consider the price to be the primary selection criterion on such markets facilitating price competition between existing market players. Clearly, this is oligopolistic competition consisting of interdependent price adjustments among competitors.

The realisation that the economics of competition law recognises the interdependence theory as an objective mechanism of oligopolistic markets does not change the fact that concentrated market structures facilitate the

[23] E. Czarny, E. Nojszewska, *Mikroekonomia*, p. 196–205.

[24] K. N. Hylton, *Antitrust Law*…, p. 80–81.

formation of cartels. It is essential therefore for competition authorities to assess whether the similarity of prices and/or other contractual terms derives from an agreement between competitors or from interdependence of their market actions in a transparent market.

Cartels may be organised in different ways. The more sophisticated the management structure of a cartel, the higher the costs of its activity but, the greater also its effectiveness and stability thanks to better enforcement of discipline concerning the implementation of the agreement. The European cement cartel, which operated for ten years with the support of the European Association of Cement Producers (Cembureau), eight national associations and 33 cement manufacturers, constitutes a good example of a precise organisation and stability of a cartel. The grounds of all UOKiK's cartel decisions did not indicate that Polish cartels were organised in an equally precise way. It is likely that the weak discipline of Polish cartels results from a general lack of social capital (the inability to co-operate among Poles in various areas including, most probably, also cartel agreements.

My experience as an antitrust consultant to large companies in Poland explicitly indicates however that the more transparent the market, the higher the chance that meetings between competitors (even those of which minutes are kept) are not collusive. Instead, they often constitute a form of market research directed at shaping the individual actions of participating companies, which may be interdependent from the plans of their competitors. Similarly, a contribution to the financing of a sectorial association engaged in information exchange, or facilitating such exchange during the meetings of its members, is treated as costs of information collection. In practice, it is often less expensive to support such an association than conducting individual market research or purchasing data from specialised research companies.

Polish experiences show also that the competition authority should treat leniency notices with extreme prudence because it is possible that the applicant is more intent on harming its competitors than on benefiting from a penalty reduction. This of course does not discredit the leniency procedure as such (effectively applied in the USA since 1978), but it is worth pointing out the risk of its misuse.

V. Criteria and consequences of effectiveness of cartel

An analysis of past cartel agreements allowed the economics of competition law to identify six presumptions for a "good" operation of a cartel[25]:

[25] H. Hovenkamp, *Federal Antitrust Policy. The Law of Competition and its Practice*, St. Paul, MN 1994, p. 141.

a) relevant market must have high barriers to entry and exit – the higher the barriers, the stronger the tendency among cartel participants to maintain discipline because there is no threat that newcomers will destabilize the market on which the cartel operates; when barriers to entry and exit are low (contestable market), a cartel might not be threatened either, if the new entrants join the agreement,
b) cartel members must have market shares which will guarantee them safe operations – market shares of companies not participating in the cartel must be sufficiently small for their sale increase to not affect the cartel agreement,
c) contrary to the common view, the key issue in cartel agreements are not prices (which may be monitored on a transparent market using information provided by the buyers during price negotiations) but production quotas that guarantee the stability of the market share of cartel members; significant variations existing in marginal costs may pose a serious difficulty when distributing production quotas among cartel members,
d) internal cartel management system must ensure the detection of all breaches of the agreement; the possibility of discretional infringements weakens its power and may transform it into an apparent cartel,
e) infringements of the cartel agreement must be penalised – if breaches go unpunished, the cartel's discipline weakens which may transform it into an apparent cartel,
f) there must be a safeguard against disclosing the existence of the cartel – the social harm of explicit collusion causes their absolute prohibition and activates competition law in order to counteract this form of market monopolisation.

The flow of market information is believed to be a key factor in economic concepts concerning oligopoly, market transparency and/or competition restricting agreements. This may be an exchange of trade, investment, innovation and financial information classified as private – directed only to competitors[26]. It constitutes a manifestation of explicit collusion, even though some believe that such an exchange of information helps to better satisfy consumer needs and accelerates innovations. The explanation of this phenomenon may be found in the concept of co-opetition, according to which entrepreneurs are willing and should co-operate in the process of added value creation, while they should compete in the process of added value distribution in the relevant market[27].

[26] M. Motta, *Competition Policy…*, p. 153.
[27] A.M. Branderburger, B.J. Nalebuff, *Co-opetition,* New York 1998, p. 4.

Public information exchange consists of the distribution of information to all market players (competitors, buyers and consumers). Although this type of information flow can facilitate price-fixing agreements, it simultaneously improves market transparency for consumers. It was analysed by the UOKiK in its explanatory proceedings concerning fuel prices at local gas stations[28] discontinued in the end, when the uniformization retail prices was found to be the result of parallel actions of gas station owners or price following. Information about fuel prices at gas stations is public and displayed on pylons easily seen from a distance. Parallel action is not prohibited by competition law and the President of UOKiK did not find collusion between the gas stations.

While the economics of competition law is focusing more and more on the market effects of cartel operations, a key question arises: how can an infringement of competition law be established if there is no hard evidence in the form of documents confirming the existence of a cartel, market analysis does not confirm price convergence, fixed market shares and market division? Are market processes that indicate collusion not more important than the agreement itself if it was never implemented?

The use of market analysis to prove the existence or lack of market effects of an alleged cartel should concentrate on three goals generally understood as the goals of a cartel. First, price-fixing is effective when: cartel members have similar production costs, including the ratio of fixed to total costs; transactions are frequent and small and; the bidding power of buyers is low making them unable to threaten the cartel. If these criteria are not fulfilled, the cartel lacks discipline in the application of the fixed prices, which might reduce it to price lists only that are generally in the public domain. Actual prices result from negotiations among sellers and buyers. Very often buyers use prices offered by one seller as an argument in a transactional game with other sellers . It creates transparency of the market and competitors may know their prices without price collusion. The evaluation of actual prices requires an analysis of prices in a particular period. Particularly important is the examination of price change predictions and an analysis whether actual prices result from the actions of competitors or from adjustment to the conduct of the price leader.

Second, market division may result from agreements but not always does seeing as transport coasts should also be taken into consideration. Competition law case law assumes that transport costs constitute a market barrier if their proportion in a single transaction exceeds 5%. Thus, depending on the physical and chemical properties of the goods, the producer may be selling its products in a particular territory not as a result of an agreement between competitors, but due to the optimization of trade logistics. Natural sellers' markets might

[28] *Zmowy cenowe*, p. 23–24.

exist in such cases, where the possibility of an entry onto another market can not be excluded, but would require profitability depends on transport costs.

Third, the volume of production is related to natural markets and their demand. If the analysis of pricing policy and of the optimization of distributional logistics indicates that it was impossible to establish the existence of a cartel regulating these areas, then the presumption on fixing production quotas would be illogical. Production quota fixing is a substitute for price-fixing, if the prices result from an attempt to maximize the profit of the seller and price negotiations with buyers, then production quotas must result from a cost-price analysis.

Economic analyses, being fully aware of their statistical and methodological weaknesses, should be applied in anti-cartel proceedings in order to keep the equilibrium between a legalistic and an economic approach to the evaluation of business performance. The economic theory, used by the economics of competition law, has at its disposal many concepts and instruments for the evaluation of market effects of an identified collusion or for excluding the existence of such an agreement on a given relevant market. The need for an economization of antitrust proceedings, including anti-cartel ones, pointed out in the economics of competition law, should modify the current approach applied to cartels. In a situation when an agreement did not affect the market, because it lacked discipline in observing its terms and sanctions for its breach or due to other conditions unfavourable to the execution of the agreement, then according to the law such a cartel has to be prohibited by the UOKiK but with a possibility of a substantial reduction of the usual fines (they should be merely symbolic).

VI. Summary

Prices convergence on a market for goods traded by various producers, concentration of their basic product quotas in a particular territory and relative stability of their market shares – do not always have to indicate the existence of an agreement between the players on that market. An economic analysis of their trade policies, of the optimization of distributional logistics and of the relationship between the volume of production and the demand level on a relevant market, may ultimately prove that their market conduct is shaped by the interdependence of business decisions made on a transparent market. The economics of competition law clearly differentiates between interdependence of market behaviour in an oligopolistic market and agreements between competitors that restrict competition by fixing prices, production quotas, market sharing or building barriers to entry for potential newcomers. Competition law should be applied only in cases when the competition authority can prove the existence of an overt collusion but not in cases of tacit ones.

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