The Market Power Measurement of Firms within the European Union

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Abstract. *Market power is important because it may lead to an inefficient and bias appropriation, meanwhile worsening productive efficiency. I have used the most important indicators for measuring market power and market concentration in this paper – the Lerner index, price dispersal and the Herfindahl-Hirschman index (HHI). With the help of the indexes and of the available statistics I have managed to analyze the market power held by European firms and the activity sectors that have the highest economical concentration. Moreover, by using data from other countries (USA and Japan), I was able to make a comparison between the level of current prices, and reach the conclusion that, although the enforcement of the single market has had a strong and immediate effect on price dispersal, there is still room left for future reductions, along with market integration growth and the growth of the competitive pressure.*

Key words: market power; market concentration; dispersal.

JEL Codes: C10, L13.
REL Codes: 17C, 10B, 2B, 7E.

Introduction

A market power is a "position of economical force, which a concern is in, that allows it to hinder maintaining an actual competition on the relevant market, granting it the power to act, to a certain extent, independently towards the participants, clients and its consumers. Such a position does not exclude competitiveness, which would stand to happen if there would be a monopoly or quasi-monopoly, but it offers the concern the possibility of having a significant influence on the terms based on which that competitiveness will develop and the possibility to act without taking it into consideration, as long as this behavior is not in its detriment" (Case 85/76, pp. 38-39).

Here we may draw the conclusion that an enterprise that is in a market power does not always have to be criticized; but the enterprise is due not to allow its behavior to affect market competitiveness. Ronald Coase talks about a risk: "if an economist finds a business strategy of a certain type that he does not understand, he will look for an explanation connected to monopoly. Seeing as how we are highly ignorant when it comes to this sector, the number of unaccountable strategies, tends to go through the roof and cases that are based on monopoly related justifications are very frequent" (Coase, 1972, p. 116).

The backbone of the European legislation concerning market power abuse is art. 82 of the EC Treaty, text of which is presented below. Also regulating market power abuse is art.81 of the EC Treaty and art 65 of the CECO Treaty. Art. 82 – The improper exploitation of a market power, exerted by one or more than one enterprise, on the corporate market, or any significant part of it, is incompatible with the corporate market and forbidden, to the extent in which the trade between member states may be affected.

Such abusive strategies may be:

a) the direct or circuitous exaction of sale or purchase prices or of certain unfair trade;

b) the limitation of the production line, of the commodity markets or of the technical development, to the consumers' detriment;

c) applying unequal stipulations for labor conscriptions that are fair towards the trade partners, thus creating a competitive disadmarket power;

d) closing deeds is conditioned by the partners' agreement on certain additional labor conscriptions, which according to their commercial use have no direct connection to the aim of these deeds.

The criteria used to demonstrate the existence of market powers are:

- *The structure criteria.* The high market share is an important factor in establishing a market power. For example, in the Hoffman-La Roche case, CEJ stated that: " the existence of a market power may be derived from a number of factors, which, separately, are not particularly conclusive, but amongst which one is highly important, and that is the existence of a very high market share" (Case 85/76, p. 461).

In this case, the firm's market share during a period of three years has been of 75-87%.

Another structural criteria used to analyze market power is the existence of barriers that make it hard for new competitors to enter the market. These can be regulatory measures, market characteristics (market complexity or the consumers' preference towards a certain brand), the behavior of

firms that function on the market or high investments. The degree of vertical integration of the firm or firms that have a strong market position may create a market power through the control it exerts on production and the distribution chain.

- *The behavioral criteria.* In a memorandum on December 1995, the Committee stated that market power cannot only be defined by means of market shares or other structural quantitative elements, but it can appear following a firm's significant influence over the market. In reality, the Committee and CEJ use behavioral elements as additional analysis for market power.

- *Economic dependency.* If companies have no other alternative in obtaining goods and services outside of one company, this may be considered to hold a market power. In the case of Aeroports de Paris, in the analysis, the Committee showed that the handling services suppliers were depending on the authority that was responsible for the exploitation of airports (Aeroports de Paris), which was supposed to grant a license in order for them to carry on their activity. Hoffmann-La Roche, a multinational company from Switzerland, which was accused of having a market power exerted by: "closing deals that contain conditions regarding consumers or granting loyalty discounts, which offer them a stimulus to buy all or most of their needs exclusively or preferably from the company" (Case 85/76, p. 625). Its activity's aggrandizement was achieved by making deals with 22 companies employed in the production or sale of vitamins on the single market, for using them either in the pharmaceutical industry (25%), either in the foods industry (15%), or as an additive in animal goods (60%).

Methodological framework and the analysis of results

Market power represents a profitable firm or firms' ability to maintain prices above the level correspondent to perfect competitiveness, over a significant period of time. According to the definition given by Samuelson, "market power represents the degree of control that a company or a group or companies exerts over the price and production levels of a certain activity branch" (Samuelson, Nordhaus, 2000, p. 208). The economical definition of market power tells us that this is not more of a rule, than an exception. On a short term, any firm that is not a price receiver will hold a certain degree of the market power (because of the slightly decreasing value of the demand). Singularly, any merchandiser of a discriminated product most definitely holds a certain share of the market power.

Economically, market power is conditioned by the consumers' preferences and the availability of the substitute products. It exists as a result of consumers' preferences for a company's product to the detriment of those products belonging to the competition. A slight decrease of the firm's demand stands to show that consumers will opt for the change to the nearest substitute or the reassignment of their expenditures toward other goods. The consumers' ability to shift towards certain other suppliers is synthetically expressed with by means of the demand's elasticity. It is preferable, as often as possible, that the analysis of the demand's elasticity be considered and used as a means of determining market power.

Pending on the price, the demand's elasticity measures the reaction to the demand, as a result of the change of price. At a given moment in time and for a certain market

structure, the *„Lerner index"* supplies with an exact estimate of the market power, based on the demand elasticity concept:

$$p - c/p = 1/\varepsilon$$

in which *p* represents the price *c* represents the marginal cost and ε is the demand elasticity towards the price.

The Lerner index is a means of measuring the market power because it reflects the extent to which a firm is capable of raising the price above the level of the marginal cost. If there is a circumstance of perfect competition, the price is equal to the marginal cost so that the value of the index is null. When the price tops the cost, the Lerner index becomes positive an it's value is situated between zero and one. The closest the index is to the value one, the higher the firm's monopoly power.

A series of issues surface, when we use the difference between the price level and that of the marginal cost, as a means of measuring the intensity of the market' s competitiveness. First off, marginal costs are very difficult, if not impossible, to establish, because there are more and more products and common inputs that cannot be clearly identified as being either marginal or immutable. As a consequence, it is more convenient to use the difference between the price and the average cost. Another issue would be that the structural changes of the production process might lead, in time, to structural modifications of the difference between the price and cost, modifications that are independent from the intensity of the market competitiveness. The level of this difference depends on the inflation rate and the level of demand.

A way of assessing market power is concentration on the *difference between the level of the price and that of the average cost* or, in other words, on the firms' profit. A decrease indicates the fact that there is a net benefit for consumers and a net loss for firms, meaning a growth of the degree of competitiveness.

A similar study undertaken by J.B. Sauner-Leroy suggests that after the single market is established, the difference between the price and average cost dropped in the manufacturing industry (Sauner-Leroy, 2003). Later on, the difference grew due to the expenses realized in the research-development sector. The biggest difference was recorded in Finland as compared to other European states. The decline of the indicator recorded after 1999, the date of the euro release, is very interesting. The modifications are shown in table 1 below.

The change in percent of the difference between the price and the average cost December 1998 – March 2003

Table 1

Country	Change in percentage
Austria	3.25
Belgium	-2.25
France	-2.25
Finland	-5.25
Germany	0.00
Italy	-1.00
Holland	-1.75
Spain	-0.25
Euro 8 Zone	-0.75

The price differences that exist between European countries are still rather high. Some studies analyzed their convergence in their community space, showing how it evolved during the course of the last decade (table 2). Price dispersion dropped throughout the course of time, seeing as how the changes were bigger at the beginning of the 90s.

Estimates regarding price dispersion in Europe

Table 2

Authors	Period	Purpose	Results
European Committee	1980-1993	Price indexes for detailed products and services categories within the EU	Accelerated convergence as a result of launching the Domestic Market program
Dresdner Kleinwort Benson (European investment bank)	1980-1993	Price analysis for 56 products from the USA and Europe	Price dispersion is higher in the EU than in the US for nearly all of the products (except four of them)
J. Haskel and H. Wolf	1998	Price analysis for 25 countries, including 11 European countries	Differences between prices are due to the existent competitiveness
Financial Times	2000	Cost of living index in 155 cities	In the EE price dispersion is currently at 7.5% and in the US it reaches 5.8%
European Committee	2000	Price analysis for fresh products and electronics within the EU	Brands and consumer preferences explain up to 40% of the current price dispersion

The reduction of price dispersion varies based on the products and services taken into account. The establishment of the single market has had a strong and immediate effect on price dispersion at the beginning of the 90s, but it maintained a high level beyond the community frontiers, which suggests that there is, still, room for future deductions, along with market integration and competitive pressure.

According to the horizontal mergers Guide, of 1992, the authorities in power will use the Herfindahl-Hirschman index (HHI) to measure the market concentration.

A growth of more than 100 percents on an average focused marked, or a growth of 50 on a focused market, will convince authorities that serious issues exist (Matthes, 2007, p.7).

Table 3 shows the focus level of the European Union, compared to those of Japan and the USA, for different sectors of the industry. The table's analysis suggests that there is a high market focus in Finland, Belgium and Sweden, which creates certain issues concerning competitiveness. A high market focus is also present in Italy, in the service sector (energy, postal services and telecommunications).

Herfindahl-Hirschman industry concentration index

Table 3

Manufactured products	Aus	Bel	Fin	Ita	UE	Swe	GB	Japan	USA
Groceries	26	31	150	31	59	131	27	2	3
Textiles	88	54	443	7	148	125	19	3	7
Leather goods	553	*2566*	263	22	851	360	134	46	65
Wood	58	87	167	4	79	76	16	5	4
Paper	160	185	352	75	193	218	79	23	14
Printing/publishing	49	40	99	43	58	39	14	18	3
Beverages	226	595	*2064*	69	738	1428	-	40	192
Glassware	440	430	1154	153	544	675	-	105	-
Raw metals	170	299	739	94	326	352	112	46	29
Non-ferrous metals	-	1059	*2372*	280	1237	517	-	65	-
Constructions Ship repairs	1707	242	1422	646	1004	249	-	178	-
Machinery equipment	43	96	98	12	62	70	17	8	8
Medical gear	-	76	269	31	125	321	43	48	-
Oil products	-	1083	-	1127	1105	917	-	220	76
Chemical products	207	75	284	44	153	375	44	15	14
Pharmaceutical products	490	551	*2175*	137	839	*2042*	-	51	-
Office equipment	792	387	-	*2208*	1129	367	285	84	18
Motorized vehicles	476	363	429	238	377	446	90	49	24
Services									
Electricity, gas	181	889	154	976	550	156	-	-	-
Postal services	230	608	559	*1957*	839	653	106	-	-
Telecommunications									

Source: OCDE, (2002), "Product Market Competition and Economic Performance: A Framework for EDRC Reviews"*, Working Party no. 1 on Macroeconomic and Structural Policy Analysis,* Paris.

Conclusion

In all these cases, the existence of a market power can only be proven and established after the relevant market has been defined. This implies taking into consideration the product and the territory. The geographical or territorial position of the relevant market is important for two reasons. First of all, according to art. 82, the market power must be abused *"inside the single market or a significant part of it"*. Second, the market's geographical establishment determines how many other competitors must be taken into consideration, and this affects the evaluation that must be made on that company's economical power. Generally, the less extended the market is, the more diluted the company's economical power is and the less probable it is that the company will be regarded as holding a market power. Basically, the geographical or territorial market is that area in which the contender's objective conditions that are applicable to the product(s) under discussion are the same for everyone. The objective conditions of the competition may vary from one region to another for different reasons: the state's action, consumer preferences, transport costs or the product's characteristics. For example, a perishable product can only be transported over a limited distance or a short period of time. This is what determines the relevant geographical market for that product. Still, market power abuse must go into effect on the single market or a significant part of it.

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