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CAUSES AND EFFECTS OF CAPITAL CONCENTRATION IN MODERN ECONOMIES

Preoccupations determined by measuring the level of concentration are fully justified taking into consideration the effects of concentration over the competitive environment. Studies made in different periods and countries show that the occurrence of concentration and its effects can be explained by different causes. This paper is focused on concept of capital, on causes and effects of capital concentration, and also on different ways of measuring capital concentration in different sectors and industries.

Key words: capital, sector concentration.

1.The multidimensional approach of capital

Economically speaking, the capital – factors of production represents the total amount of economic goods accumulated and reproducible, which associated with other production factors participate in the production of new economic goods in the purpose of gaining a profit[1] .

Regarding the criteria of classification of capital the following structure shows importance:

real capital – has a value in itself, reflected by the production goods which functions economically;

nominal capital – doesn't have a value in itself and it doesn't function in the economic activity, but it represents a property certificate over real values and enables the income.

The main part of the real capital is the technical capital, respectively the total amount of reproducible goods able to increase work efficiency and bring about revenue for its owner. In a specific way in which they are consumed and replaced, the technical capital elements fall in fixed and circulating capital.

The fixed capital can be viewed as one of the factors of production, situation in which it is accepted as a category of goods produced and used in the purpose of producing other economic goods and it becomes the object of analyzing the results of which the undertaker's ability depends on. The statistical analysis of fixed capital uses the notion of

fixed means and fixed capital, the former regarding the material aspect of the category, the latter its value aspect.

Through fixed capital we define that part of the productive capital (real, technical) made of long term goods that serve as a people's work instrument in many cycles of production, which consume gradually and are replaced after several years of use[2].

Circulating capital represents that part of the technical capital consumed in every exploitation cycle, participating with its entire money expression to form the costs and it is replaced after every consumption once a new cycle is reopened.

The elements of the circulating capital – raw materials, consumables, fuels, energy, water, outside half-finished materials etc. – are susceptible to many alternative uses, the closer to the natural brute material.

Together with the fixed capital, the circulating capital forms the multitude of capital – goods that function as a factor of production.

Any constitution of a trading company involves an initial capital contribution – registered capital – which allows the beginning of the activity, covering the first investment and exploitation expenses and at the same time it represents a condition for obtaining loans.

The equity capital consists of the registered capital - which is made up of the sums, available for the company, with a permanent character disposed by the owners under the form of cash or in nature contribution – from the following capital growth, from favorable differences in reevaluations, undistributed profit, the favorable results of the current exercise before the redistribution and probably on the received subventions[3].

The equity capital stands in with the liability elements for financing the company and faces the risk of profitability, liquidity and solvability.

Financially, the equity capital indicates if the company was profitable up to a certain moment. Legally, a company that loses more than 50% from the equity capital must be disolved within a deadline, it must rebuild the registered capital related to loses that couldn't be covered by funds.

The company's financial structure reflects the existing reference between short and long term finances. Most of the time, the company cannot arrange financing from own funds but turns to external ones.

The long-term capital (equity capital + medium and long term debts) assures the company's demand for fixed means and a part for

circulating means, the difference is being covered from treasury resources (short term trade credits and bank loans) to establish a financial structure is one of the most important financial decisions that has to be taken according to the specific of the activity developed in the company. Therefore while financing long term capitals it's much less expensive, financing on term assures more flexibility and adjusting to the volume of activities to every period's necessities. Although the criteria of profitableness primes, in establishing the financial structure of a company other factors are taken into consideration, like the pressure of the shareholders, the banks, the state's political economy and the economic financial conjuncture in general.

2. The capital's concentration concept and types of acting

A series of empirical studies and theoretical models try to define the trajectory of the urban concentration in different stages of development.

Catin and Van Huffle (2003) examine the regional differences and the polarization / dispersion enforces in the case of the developing countries on 3 levels:

stage 1 – pre-industrial, where the income /citizen is reduced and there is a weak urban concentration.

stage 2 – where the industrialization process forced the urban concentration and the polarization of the activity.

stage 3 – where together with the high technology industry's concentration and the reduction of the industries intensive in labor, the extent of the regional inequalities and the concentration of the activity in urban areas reduce when Gross Intern Product / citizen closes to the level of 5000 USD.

In the case of Romania, we can examine the spatial differences of the economic concentration starting from the following reasons: how concentrated the economic activities are, what kind of factors determine the economic concentration; what kind of differences are imposed y the regional concentration.

The division of the foreign companies is unequal on sectors, in those intensive in technology (communication equipments, computers, integrated circuits) the highest percent being held by the foreign companies. Resources continue to concentrate and the effects of overcrowding to accumulate. International opening accents the economic concentration in certain geographical areas. The development of the export sector and the growth of direct foreign investment entries contribute to a rapid growth of certain regions.

Empiric studies (Williamson – 1985, Wheaton and Shishido – 1981, Hansen – 1990, Mac Kellar and Vining – 1995, Henderson – 2000, Henderson, Shalizi and Venables – 2001) analyse the level of urban concentration during the developing process and suggest that in spite of the level of the GIP / person of 5000 USD, urban concentration tends to reduce. Different models highlight the major forces of polarization and regional urban dispersion of the activities in three stages of development, from many points of view: the center outskirts (Krugman – 1991), which take into consideration the congestion and the dynamism of the external growth and examines different stages of development; the multi regional model of the industrial congestions (Fugita and Thisse – 2001, 2002); the urban economic geographical model applied to underdeveloped countries (Krugman and Livas Elizondo – 1996); a historical typology (Duranton – 1997, 1999).

The strong polarization combined with the transport cost reduction and a growth of the labor productivity – resulting from the scale economies – characterize the second stage of the urbanization and industrialization development. From the economic history of the developed countries result examples of regional urban concentration of the activities in the pre-industrial period: the making of the American industrial belt in the second half of the 19th century; the growth of the differences between the Eastern and Western regions of France in the 19th century and the first half of the 20th century. Today, the urban concentration is more unbalanced in the developing countries.

The high technology industries grow faster than the ones intensive in labor, implying change in the production structure, which isn't equally distributed over the territory.

3.Sector and foreign capital concentration

The concentration of an industry or an activity sector is mostly measured through two methods: CR (concentration rate) and Herfindahl – Hirschman index.

Concentration rate4 (CR) represents the market rate which is held by the biggest n companies from a sector of activity. The concentration rate for the biggest n companies from all sectors of activity is calculated by simply summing up the market rates:

CRn = S1 + S2 +….Sn, where as Si is the market rate for every company.

The market rate of a company is determined as a percentage ratio between the company's sales fig-

ure and the total sales figure in the respective sector of activity. In the USA it has been determined since 1997 the concentration rates for the first 4,8,20 and 50 companies respectively CR4, CR8, CR20 and CR50. Starting with 1997 the concept of concentration appears in the official statistics of Romania, in the chapter "Result and performances of the companies" (The Statistical Yearbook). The concentration in the sector of activity is analysed starting from the percentage of the first 5 respectively 20 national level companies listed according to the sales figures and the number of employees.

Generally, if CR4 or CR5 have values under 40 (which means that the percentage of the first 4 respectively the 5 companies from the sector have less than 40% from the total sales figure or from the total number of employees), the sector of activities is considered to be highly competitive, because there is a high enough number of companies which compete, without any of them to hold an important rate on the market. On the opposite end if CR1 is over 90, that market is a monopoly one.

The main problem related tot the concentration rate is that it shows us the degree in which a company dominates the market. By definition it doesn't take into consideration the market rate of every company from that industry. Furthermore, it does not give any information related to the distribution of the companies in the sector: if there are any changes of the ratio changes between the companies taken into consideration in order to determine the concentration rate (the first 4 or 5) the value of the coefficient of concentration will remain constant.

The Hefindhal- Hirschman index (HHI) is calculated by summing up the squares of the individual market rates of all the companies in the sector of activity. The formula which determines it, is:

HHI = S?1 + S?2 + …. S?n, where S1 is the market rate of every company.

The main two advantages that the usage of the HHI assumes, compared to the concentration rate are:

HHI reflects both the distribution of the market rates for the first companies and the market composition outside first 4, 5, 8, 20 or 50 companies.

HHI gives more importance tot the market rate of the biggest companies and thus, it acknowledges the relative importance of the large companies in competitive interactions.

In contrast to the concentration rate, HHI will modify in case the market rate of an important

rate will change in favor of another one. The value of HHI can be between 10000 and 0: for example, if a company has a market rate equal to 100% (monopoly) HHI will take the value of 10000, the maximum value that this index can take. On the opposite, if there is a large number of companies that compete each having a market rate that tends to 0, then the value obtained for HHI will be close to 0.

Generally, when HHI is under 1000, we can say that the market has a reduced degree of concentration: if HHI has values between 1000 and 1800 the degree of concentration is moderate, and the values over 1800 show a market with a high level of concentration. In the USA this index is used in decisions concerning competitional policies, decisions related to acquisitions and fusions: when HHI is under 1000 this type of operations are allowed because it is considered there is no risk for anti-competitional practices; if HHI is between 1000 and 1800 the USA Justice Department will carefully evaluate the impact of a fusion or acquisition compared to the effect that the operation has over the value of this index. In case the value is over 1800 the antitrust laws will be applied because it is considered that free competition is in danger. If such an operation (fusion, acquisition) generates growth with more than 100-200 points of HHI the market analysis will be extremely rigorous and circumspect.

The methods of measuring the sector concentration come to complete the classical economic theory contributing to determination of competition type. In this manner, Figure 1 shows the general relationship established between the type of competition

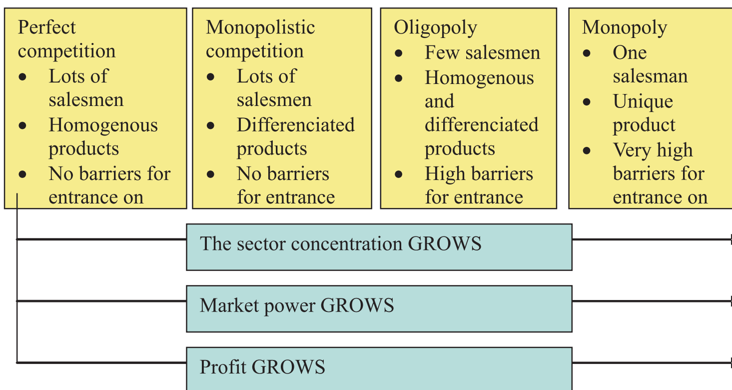

Figure 1. Competition, concentration and profit

(the market structure), the concentration of the sector of activities, profits and revenues.

Figure1 Competition, concentration and profit expresses the traditional vision related to the existed correlation between the three elements. As we move from left to right, from perfect competition to monopoly, the level of sector concentration increases. While the level of concentration grows, the company's market power grows as well. Usually, the profit rate grows when the company's market power is bigger.

The reason that supports the idea of incorporating an industry in a certain type of competition starting with the concentration level is the fallowing: the number of companies is an important differentiating factor between the types of competition. When the number of companies from an industry is high, usually a level of concentration tends to be low. The exception is the oligopoly, where the number of important competitors counts and not the total number of companies (for example an industry with 100 companies can be considered as an oligopoly structure if the first six companies own 95% of the market)

The interference between the

Table 1. The classification of the sectors of activity considering the CR and HHI

CR_4's value	**Type of competition**
$CR_4 = 0$	Perfect competition
$0 < CR_4 < 40$	Monopolistic competition or effective competition
$40 < CR_4 < 60$	Week oligopoly or monopolistic competition
$CR_4 > 60$	Strong oligopoly or dominant company with competitive edges
$CR_4 > 90$	Monopoly or dominant company with competitive edges
HHI's value	
HHI < 1000	Monopolistic competition or effective competition
1000 < HHI < 1800	Monopolistic competition or oligopoly
HHI > 1800	Oligopoly, dominant company with competitive edges or monopoly

measuring of the concentration level and a classical economic theory can be illustrated as shown[5]:

Evaluation of level of concentration will take into account the relevant market for every company. Generally the market is represented by the all the potential clients that have the same need or desire and that are willing and have the capacity to engage in a relation of exchange in order to satisfy that need or desire. The relevant market is defined as the minimal geographical area in which a hypothetical monopoly could durably (almost one year) impose and maintain a profitable growth of its prices (almost 5%) without affecting the consumers' behaviour. This definition, known as 'the rule of 5%' is used in law sciences, we can not say that it brings a lot of clarity in defining the relative market. Nonetheless we can say that measuring the level of concentration can be irrelevant in the fallowing situations:

Competition of the imported goods is significant in certain sectors of activity

Geographical distribution is uneven: dates from the statistical year books have a national character and do not reflect the situation in which a certain industry has a high level of geographical concentration

Competitors can enter the market: general studies regarding the level of concentration have a static character which makes it unable for the information to be extrapolated in sectors with short entrance barriers or are not relevant on long term

Competition can take place not only intra-sector but also inter-sector: the presence of indirect substitutes for goods and services can be as important as the presence of direct substitutes.

4. Causes and effect of sector concentration

Preoccupations determined by measuring the level of concentration are fully justified taking into consideration the effects of concentration over the competitive environment. Studies made in different periods and countries show that the occurrence of concentration and its effects can be explained by different causes.

Therefore an industry can reach a high level of concentration resulting from the presence of entrance-exit barriers on that market. That is why Michael Porter6 considers that this factors contribute in reaching a high level of concentration in industry:

The presence of entrance barriers:

- Scale economies;
- Differentiating by product;
- Need of capital;
- Costs of exchanging a business partner;
- Access to distribution chan-

nels

- Disadvantages of cost independent from scale economies
- Technology property;
- Favourable access to raw materials;
- Favourable placement;
- Favourable governmental subventions;
- Evolution in learning and experience;
- Governmental policy;

- Presence of exit barriers :
- Specialized long-term assets;
- Exit fixed costs;
- Strategic exit barriers: interdependence, access to financial markets, vertical integration;
- Computer barrier;
- Emotional and managerial barriers;
- Government and social barriers;

We can also consider the nature of the activity sector a factor which influences decisively the level of concentration. The presence of scale economies is influenced by the nature of industry. Additionally concentration may be the natural result of competition[7]: the sale of certain products will satisfy the consumers, will lead to market rates far higher. Fusions are in themselves a cause of concentration and they may also be a cause of cooperation and deal among companies which generally leads the price rise in the respective activity sector.

The means used by companies to obtain a market rise far higher to that of the competitors respectively the share which can influence directly the degree of sector concentration may be:

Acquisitions- buying partial or total assets;

Fusions;

Formation of joint ventures: 'joint ventures' in the research field can lead to new products in competition to the existing ones which lowers the market powers. But, however we can meet situations in which a dominant company can use a joint venture to cope with a competitor. There is a way by which two companies can cooperate in view to gain some potential profits, maintaining though control over both activity and organisation under discussion. The most common way is that when a new founded company focuses on research in which the two partners have equal shares;

Licences: a licence gives a company the possibility to access a technology by paying a licence tax (royalty). It is important a distinction between exclusive and non-exclusive licence: when a company gets a non-exclusive license gets the right to use official technologies. When the company gets an exclusive licence it makes the promise not to allow broadcast or to hand over the licence;

Strategic alliances: competition, agreement in research and alliances.

No matter the causes and the ways in the process the concentration operations have several aspects:

Concentration may rise the prices: when a product is sold by only few companies they will deal with the prices.

Concentration may rise the profits: out of 48 articles published by the beginning of the 70's concerning sector concentration in the USA, 42 concluded that the more concentrated an industry is the higher the profits are. The statistic correlation is weak. Recent research discovered that there is no significant statistic relationship between profits and industrial concentration: if there is any relationship between concentration of shop assistants and profitability is statistically weak and effects are low. The relationship is unstable in time and space.

It may influence in a negative way the market efficiency extreme cases of concentration defines monopoly;

It may rise the preoccupation for equity or rightness of the market;

It may have positive effect by scale economies;

The power on the market may be maintained on view to block the entrance of new competitors;

The intellectual property rights restrict the number of owners on the market in order to stimulate innovation;

Takeover of small companies by the multinational ones (the extinction of small competitors)

Generally speaking the market efficiency depends on the competition level of the respective market and not on the number of competitors. Market concentration does not always mean market power and a big number of companies doesn't always mean a powerful competition. If the markets are geographically, obviously, bordered the presence of a big number of companies doesn't guarantee the competition: each can control a certain market spot for which it will be the dominant company.

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