

THE EMPIRICAL METHODOLOGY OF MODERN MONOPOLIZATION PROCESS ASSESSMENT AS A SUSTAINABLE CONSUMPTION INSURANCE TOOL

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Abstract. The research "The Empirical Methodology of Modern Monopolization Process Assessment as a Sustainable Consumption Insurance Tool" provides a multi – perspective in – depth description of the nature, the occurrence sources, the development procedure and the internal conjuncture specifics of the present day monopolization process as well as providing an example of modern econometrical method application within a unified framework of market competition analysis for the purpose of conducting a quantitative competition evaluation on an industry – level, resulting in applicable outcomes, suited for practical use in both private and public sectors. The main question of the aforementioned research is the definition and quantitative analysis of monopolization effects in modern day globalized markets, while constructing an empirical model of the econometric analysis, based on the use of international historical experience of monopoly formations standings, with the goal of introducing a further development scheme for the use of both econometrical and statistical instruments in line with the forecasting and business research needs of enterprises and regulatory functions of the public sector. The current research uses a vast variety of monopolization evaluation ratios and their econometrical updates on companies that are involved in the study procedure in order to detect and scalar measure their market monopolizing potential, based on the implemented acquired market positions, turnover shares and competition policies.

Keywords: monopolization process, applicable econometrical modelling, competition level analysis, market conjuncture, industry development trends.

Jel code: D42, D43, D52.

Introduction

With the vast development of the modern business and trade, numerous former unquestioned and unchallenged visions of the market functioning paradigms, mechanisms and conformity of natural laws are being transformed, re-evaluated and analysed from various

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economic perspectives. Based on the classic A. Smith's theory, J. M. Keynes alternative approach and works of P. Samuelson, economic research is developing further among with the entire society, causally following and quickly reacting to newly emerging social trends. It states in "An Inquiry into the Nature and Causes of the Wealth of Nations" Book IV, Chapter VIII: "Consumption is the sole end and purpose of all production and the interest of the producer ought to be attended to, only so far as it may be necessary for promoting that of the consumer". Thus, the inventor of "invisible hand" concept underlines that no form of competition, regardless of its specifics and market conjuncture composition, is free from or can neglect the maximum level of consumption capacity, made available by the current demand (Smith, 2007).

It is argued in "Foundations of Economic Analysis": "Every good cause is worth some inefficiency". Thus, it may be argued that for the sake of economic stability maintenance and social utility maximization, a shift from perfect or near – perfect competition can and to some extent, should be made. (Chamberlin, 2010)

It is explained in "The General Theory of Employment, Interest, and Money": "The difficulty lays not so much in developing new ideas as in escaping from old ones". Consequentially, this undoubtedly widely respected authors suggest the non – conventional approach to implementing new elements into the modern day economic theory while being able to take a fresh, innovative look those seemingly common aspects of market interactions (Keynes, 2011).

Nevertheless, there is one particular existing field of economic evaluation that has not seen any changes in the public opinion since the mid XIX century. It is still as well as more than a hundred years before, being seen as concentration of "capitalism evil" that bring only losses and price increasing to all members of the society (Tarbell, 2012). The currently addressed phenomenon is a legal equity, profiting from the position of absolute monopoly, so attractive and wanted by any actively functioning company, influencing all aspect of modern day economic processes, significantly changing the composition of any given market conjecture and reshaping all forms of business conduction possibilities.

The above mentioned position is being obtained in the process of monopolization – one of the most topical phenomena of both developed and developing economies of the current century, significantly rising in importance of full understanding within the context of the world financial crisis aftermath. The composing element of any national economy, namely, markedly involved companies are forced to adapt to the process of globalization through finding new, sometimes quite unorthodox ways of securing the conducted business profitability and liquidity, thus, consequentially increasing competition within any given market that frequently leads to market consolidation tendency increase, while excluding a large portion of inefficient companies from the market, leading to natural increasing of the industry monopolization level. (Skoruks, 2014)

The research objective of the current research, taking into consideration modern day economic challenges and above described tendencies, is to, with the use of analytical,

comparatively – economical, coherently – logical and economic index analysis methodologies, conduct a full – scale study on the nature of monopolization process, detect its appearance sources, define the caused effect in modern economic systems as well as analyse and evaluate the main monopolization influence factors that shape conduction of the process according to various industries market conjecture specifics.

The research hypothesis of the current study may be defined as follows: modern day small open economies undergo a natural, consequentially – economic based and supported by internal competition, process of market consolidation, which leads to the acceleration of individual monopoly power concentration in specified niches, especially seen in industries that are restricted from the effects of import due to their functioning specifics.

The research object of the current research is defined as five structural industries of Latvian national economy, their market conjectures and specifics of competition conduction as well as revealed monopolization trends and its development algorithm. An additional focus of attention will be given to the mobile communication market along with involved companies, their supplied services, pricing systems, management strategies, related additional products, empirical demand, supply and client loyalty in the specified market and the above given factor cluster influence on the process of monopolization within the framework of the evaluated industry. The above mentioned focus – market had been chosen due to its internal conjuncture configuration as a system, naturally secured from macro – external competition such as import and international equity infiltration due to the regional specifics of providing telecommunication services.

The main goals of the current research may be defined as follows:

- to define the existence substantiations, causes and consequences of monopolization process;
- to define the positive and negative consequences on monopolization process conduction in the modern day economic systems;
- to construct an empirical quantitative model that would allow to evaluate and conduct scientific study of monopolization process combining the main existing methodologies with innovative causally – coherent approach;
- to conduct a study of the process of monopolization, its structured development and composition algorithm with the use of the developed model;
- to conduct a verification test of the current study's research hypothesis with the use of the developed model, consequentially confirming of neglecting its rationality and scientific applicability.

The following assessment methods shall be used in order to conduct the current research: monographic analysis, secondary statistical data analysis, graphic analysis, econometrical modelling, mathematical criteria analysis, quantitative regression analysis, qualitative resulting interval range analysis and data grouping method.

The following sources were used in order to carry out the research, conducted in the current research: printed scientific literature and fundamental researches (Keynes, 2011), (Coase, 2010), (Fisher, 2012), online journals (Foster, McChesney, Jonna, 2011), electronically public accessible market and enterprise data, electronic university databases, published legislative literature (Judith, 2011).

In order to establish a scientifically clarified field of analysis, the following assumptions are being established and further taken into account:

- all industry supply participants, who are entitled to an individual market share under five per cent of the gross market capacity shall be merged into one cluster unit of statistical data until its cumulative scalar value reaches the aforementioned minimum benchmark of five per cent;
- the above mentioned merged data clusters, regardless of the number of included participants, possess all the corresponding economic characteristics of a single rational market actor.

Additional and complementary services that are not primal constituent elements of the product core benefits are being seen as minor influence factors that have a limited effect on the market share fluctuation between competing parties.

1. Theoretical background of the conducted research

Monopoly (from Greek *μονο* (mono) – one and *πωλέω* (poleo) – to sell) is a unique advantage situation in any state, industry, organization or branch that allows acquiring benefits from such position. In terms of economic evaluation, a monopoly is defined as a special market situation, ensuring a higher level of profitability on the behalf of price growth and production cost cutting with the use of the so-called monopoly position advantages.

Such position is wanted by any entrepreneur due to on one hand the neglecting of competition risks, growing marginal costs, sale amount fluctuations and, on the other hand, the ability to influence both pricing and social preferences through the supply amount changes (Hayek, 1944).

The above given characteristic of the absolute monopoly market type from the perspective of modern economic reality is to a certain extent, outdated, not reflecting the true nature of “money–product–money” link internal casual relations, for the monopolist is dependent on a voracity of influence factors, regarding price rising, such as, consumption rates, consumer disposable income, demand flexibility, but mostly – the common economic scene that dictates the rationalization of prices in order to maximize the actual profit. Nevertheless, the public opinion is still largely stereotypical, the most powerful and persistent of which is the assumption of “monopolies dictating the prices” (Fisher, 2012).

The main reasons for emerging, adaptation and successful functioning of an absolute monopoly are several strictly economic reasons that are listed below:

- there is only one active supplier in the market;

- the sole market supplier is a rational market actor;
- there are now replacement products (goods or services) available;
- existence significant, almost unconquerable barriers for new suppliers to enter the monopolizes market;
- monopoly's supply amounts are equal to those of an entire industry, which can be interpreted as a down-lined linear chart (Robinson 2012).

It would be worthwhile to describe the main barriers, implemented by the modern monopolies in order to better understanding of monopoly advantages:

- legal – laws, governmental decision, service of general economic interest conduction entrustments;
- economic – lack of capital or any other type of resources, excessive means of production single – based concentration, cost cutting abilities, information, legally obtained as well as of insider nature, or any other market influence tool due to their concentration in the hands of the monopoly;
- technology – experience, specifics methods of efficient business conduction or manufacturing protected as commercial secrets or individualized know – how (Judit, 2011).

Currently, a vast variety of singularised methods of monopolization level assessment exists, such as, for example, the Lerner Index (Lerner, 1934), the Herfindal – Hirshman Index (U.S. Department of Justice...,2010) or the evaluation of price flexibility. However, the above mentioned methods are either concentrated on a single legal equity individual monopoly power measurement or are aimed on a zero – momentum, "time – frozen" market cluster analysis, which, in both cases, is inappropriate for a medium – term industry – level monopolization trend evaluation.

2. Concept of the developed monopolization process evaluation methodology

The singularised methods of monopolization level assessment, described in the previous section of the current research, are arguably mutually incoherent and, thus, do not enable a prevalence of fully consistent combination of simultaneously applicable evaluation tools. Thus, it would be rational and most beneficial for both private market actors and public supervisory bodies to have access to a quickly disposable, scientifically justified and easily applicable quantitative model, allowing the conduction of an industry or market level analysis of monopolization tendencies, providing both numerical benchmarks and their qualitative interpretations within a defined annual framework.

The developed model will combine existing methods of both specialized monopoly and empirically – econometrical data assessment with author proposed innovation, consequentially designing a combined quantitatively – qualitative tool with cheap installation, easy implementation and demonstrative result outputs, suitable for use in both state sector for

regulatory reasons and private equities with the goal of business planning or managerial tasks performance improvement.

The use of already existing methods will allow to prosper from previously gained international experience, while implementation of newly developed correlations and additional influence factors shall provide a topical transformation of the necessary nature, inflicted by globalized merging market clustered composition units, thus, creating a synergetic effect, consequentially improving the existing approaches while preventing innovative tool of assessment from untested and questionable fluctuation, reasoning scientific heritage with rational updates on a scalar scale, reaching far more flexible, fundamental and coherent model composition.

The main foundation of the developed complex model of monopolization process evaluation is the step-by-step assessment of available data from econometrical perspective with the perspective acquired scalar result qualitative evaluation, allowing the conduction of a complex, multi-scale analysis, suitable for all economic field of activity, meaning that the current model shall be suitable for evaluations of any national economy industry.

The developed model composition will be further described in the following sections in order to provide a complete insight and sufficient understanding of the internal quantitative correlations between the model's composing structural elements as well as working out a steady implementation algorithm, while creating a qualitative interpretation methodology for assessing the quantitative scalar outputs of the conducted multi-factor analysis.

In order to verify the research hypothesis of the current study, consequentially approve or decline its conceptual formulation, the developed model shall be implemented, tested and statistically leveraged in order to prevent any minor calculation imprecision on the five following industries on the Latvian national economy:

- industries, unaffected by import flows: mobile communication market, banking sector and multi-purpose retail trade market;
- industries, affected by import flows: brewing industry and pharmacy market.

The reason for selecting the above mentioned industries is the need for various situation testing of the developed model, which can be reached only by implementation testing within the framework of different and partially unrelated sectors of the economy, while defining the effect of import on market consolidation processes and, consequentially, more rapid monopolization trend strengthening.

3. The quantitative functioning principles of the developed methodology

Using the information, described in the above given section of the current research, it can be stated that the modern econometrical data assessment methods and the existing monopolization evaluation approaches share the following basic quantitative market data clusters: individual market share dynamics, demand flexibility – price fluctuation correlations, number of competing suppliers in the entire industry.

These elements undergo an individualized evaluation, according to the chosen methodologies and the results of the conducted analysis are re-interpreted separately, forming unrelated scales of decision making.

Taking into account the multi-scale evaluation, conducted within the framework analytical methodology assessment section of the current research, it is necessary to update each studied methodology by creating a more transparent quantitative basis for influential factor group and integrating them into a single confound of a complex econometric multi-function analytical model.

The most relevant case of natural monopolization process conduction can be seen in a situation that uncovers A. Smith's "invisible hand of the market" (Smith, 2007) concept's hidden essence, serving at the same time as the source of critics against both neoliberalism tendencies and orthodox free competition schools.

The above mentioned phenomenon can be defined as follows – regressive competition. Regressive competition is a market situation, achieved by strong internal competition forcing the suppliers out from the market, while new competitors are unable to infiltrate the current market due to the lack of resources and high industry, based on constant fluctuation of the market conjuncture, exclaimed by the level of internal competition.

Consequently, the market becomes a closed system with no entrance possibilities, but the existing suppliers are continued to be pushed out by their more efficient rivals, thus, leading to natural market consolidation until the state of oligopoly and enabling the process of monopolization to begin its conduction and development along with the evolution of the market.

Another way of regressive competition to come into place is a wide-scale economic crisis that in a natural way forces part of the suppliers to leave the market, while the remaining competitors engage each other in drastic measures of market share redistribution.

Therefore, the complex model of monopolization process evaluation must include all factors that influence market share dynamics, individual company monopoly power fluctuation evaluation, competition and its effects analysis, current gross position of all suppliers of the industry in terms of sale amounts, internal and external possibilities for market conjuncture changes and last but by no means least, the attractiveness of the specified market for external infiltration, while assessing the rationale want and practical possibility of new supplier involvement into the market in terms of monopolization process future diagnosis. The indexes are additionally integrated into the structure of the current model with the use of statistical weight system, allowing the synergetic effect of mass coherence to take place. The conceptual structure of the current model can be seen in the Table 1.

Table 1

The quantitatively – integrated indicator system of the developed methodology

Title of the indicator	Indicator functional group	Weight of the indicator functional group	Weight of the indicators within a single functional group
Gross current monopolization level index	Evaluation of the current level of market monopolization	65%	25%
Gross current monopolization level consistency index			15%
Net internal monopolization stimulus index			15%
Net external monopolization stimulus index			15%
Individual monopoly power concentration index			30%
Current monopolization level net volatility index	Evaluation of the market monopolization potential and further development possibilities	35%	25%
Net competition effect index			40%
Gross monopolization potential index			35%

Source: author's construction based on previous authentic research (Skoruks, 2014)

From the information, given in Table 1, it can be seen that the currently developed model inflicts a dually – complex method of data analysis, quantitatively assessing both current monopolization status and future monopolization process development potential in an econometrical, coherent way within the framework of integrated index system.

It would be rational to define and analytically describe the calculation and quantitative casual links between the indexes that form the composition of the current model, while giving an overview of qualitative assessment methodology, used for interpretation of the gained quantitative analysis result evaluation.

4. The quantitative structure of developed methodology

The updated version of the developed complex model of monopolization process evaluation consists, in comparison to its initial composition (Skoruks, 2013), of eight indicators that are integrated into a unified econometrical system of multifunctional evaluation. The quantified system itself is based on correlative dynamic equation modelling approach, creating a combined system of mathematical calculation, consequentially reflecting the above mentioned indicator value in coherent and mutually – comparable manner, which had been updated as to provide analytical outputs in per cent metrics. Such development may be regarded as an improvement to the previous state of affairs (Skoruks, 2013) due to a higher mutual transparency of a unified measurement scale, which uses a single value interpretation system.

On the base of Microsoft Excel program, an electronic template, consisting of primary and secondary data inserting area, analytical input and output field as well as total summarized result quantification cells. While the current model provides economically accurate and

methodologically verified data analysis on up-to-date, fully digital basis, qualitative interpretation of the acquired scalar results is crucial for making correct decision.

Due to the recognition of the need for quantitative result qualitative interpretation, the current model has an additional explanatory feature, allowing the conduction of a fully transparent scientific market analysis. An illustration of the developed methodology's electronic template, updated to meet the newly emerged challenges, is provided in Table 2, which is available below.

Table 2

The illustration of the developed methodology's updated electronic template

Nr.	SUM (1;N)	Evaluation of the current level of market monopolization					Evaluation of the market monopolization potential and further development possibilities		
	SUM (A;Z)	SUM CIdx1	SUM CIdx2	SUM CIdx3	SUM CIdx4	SUM CIdx5	SUM PIIdx1	SUM PIIdx2	SUM PIIdx3
		9.44%	51.94%	9.44%	6.76%	13.81%	97.13%	88.39%	12.50%
	Company	CIdx1	CIdx2	CIdx3	CIdx4	CIdx5	PIIdx1	PIIdx2	PIIdx3
1	A	3.27%	98.03%	3.27%	2.30%	4.79%	2.45%	9.31%	12.50%
2	B	0.33%	19.76%	0.33%	0.32%	0.26%	1.56%	7.04%	
...	...	...	...	...	...	...	...	...	
N	Z	0.96%	58.02%	0.96%	0.61%	0.05%	0.89%	7.41%	

Source: author's construction based on previous authentic research (Skoruks, 2014)

5. Implementation of the developed methodology: verification of the research hypothesis

It would be most rational to analytically summarize the acquired results of the conducted experimental implementation of the developed methodology in order to transparently compare both quantitative and qualitative aspect of the introduced models' applicable functionality. The quantitative results of the developed methodology's experimental implementation, carried out while being based on the market data, available for the period of 2013 – 2014, can be seen in Table 3.

Table 3

The quantitative results of the conducted experimental implementation

Title of the indicator	Industry used in the model implementation experiment (2013-2014)				
	Mobile communication market	Banking sector	Multi-purpose retail trade market	Brewing industry	Pharmacy market
Gross current monopolization level index	83.91%	75.93%	79.69%	39.89%	17.11%
Gross current monopolization level consistency index	75.33%	71.19%	59.29%	11.11%	9.09%
Net internal monopolization stimulus index	81.99%	59.67%	63.77%	14.59%	12.48%
Net external monopolization stimulus index	81.95%	33.17%	37.91%	21.37%	20.53%
Individual monopoly power concentration index	73.89%	35.29%	61.81%	16.23%	14.47%
Current monopolization level net volatility index	33.79%	19.17%	14.32%	15.29%	11.27%
Net competition effect index	65.11%	31.19%	29.11%	17.59%	13.61%
Gross monopolization potential index	67.93%	41.01%	35.67%	21.23%	16.87%

Source: author's construction based on previously conducted research (Skoruks, Shenfelde, 2014)

Acknowledging the information, provided in Table 3, it may be argued that the developed complex model of monopolization process evaluation is a precise econometrical tool of market research conduction, able to leverage the available statistical data with the selectively implemented weight system, leading to a multi-functional, economically sustainable and scientifically justified model of market data analysis. With the goal of creating a comparison between the quantitative experiment results in an easily interpretable manner, the developed model had been enabled to automatically produce a qualitative measure of interpretation of the aforementioned numerical outputs. The qualitative interpretation of the acquired quantitative result of the conducted econometrical experiment can be seen in Table 4.

Table 4

The qualitative results of the conducted experimental implementation

Title of the indicator	Industry, used in the model implementation experiment (2013-2014)		
	Current level of monopolization	Potential of further increasing of the current level of monopolization	Cumulative total level of monopolization
Mobile communication market	High	Medium	High
Banking sector	Medium	High	Relatively high
Multi-purpose retail trade market	Medium	High	Relatively high
Brewing industry	Low	Medium	Low
Pharmacy market	Low	Low	Low

Source: author's construction based on previously conducted research (Skoruks, Shenfelde, 2014)

The information, given in Table 4 verifies that the level of monopolization in the mobile communication, multi-purpose retail trade markets and banking sector ranges from relatively high and high, while in the brewing industry and pharmacy market it has been defined as low, indicating that the industries, open to import infiltration, have two times lower combined

monopolization evaluative coefficient then those markets that are simultaneously localized and excluded from the influence reach of external competition.

Conclusions and proposals

Summarizing the outcomes of the conducted research within the structural layout of the current research, acquired quantitative analysis result and their profound qualitative evaluation, the following conclusions can be made:

1. The model, developed by the conduction of the current research, had described and confirmed the duality of monopolization process conduction due to the nature of its boosting economic influence factors.
2. The developed model had proven that irreparable resources, technologies and know-how can and mostly does stimulate conduction of monopolization process.
3. The conducted research testifies and confirms the research on national economy structural crisis stimulation of monopolization process within those industries that are undergoing a recession.
4. The conducted research had proven the much higher level of analytical precision of methods that use market share data, rather the just the number of supplier, functioning in the defined market, evaluating industry monopolization process development.
5. The research hypothesis of the current study has been fully confirmed: indeed, modern day small open economies undergo a natural, consequentially – economic based and supported by internal competition, process of market consolidation, which leads to the acceleration of individual monopoly power concentration in certain niches, especially seen in industries that are restricted from the effects of import due to their functioning specifics.
6. The conducted research has proven the industries with low demand flexibility are more tended to be monopolized due to non-elastic total natural market capacity and inability of the demand amount to operatively relocate.
7. The conducted research had proven that monopolization can and must be assessed by applying coherently-integrated econometrical models, thus leading to a much higher level of scientific and applied analytical precision than it may be achieved by individual case ad hoc evaluation.

Summarizing the conducted research, developed complex model of monopolization process evaluation and its implementation results, the proposals can be made:

1. The further analysis of monopolization process should be conducted as a systematic approach to econometric modelling and rational market relation causality in order to establish a scientifically justified tool for market efficient functioning measurement with the empirical goal of achieving consistent consumption of a free trade system basis.
2. The empirical definition of monopolization process should be revised within the context of natural market consolidation tendencies and total demand amount fluctuation trends.

3. The monopolization tendencies, existing in small open economies, should be acknowledged as markedly justified and economically rational, while still leading to a cumulatively negative social effect, which may undermine consistent consumption.
4. The recognition of a certain market as monopolized should only be made only with the use of scientifically tested and experimentally verified methods of assessment, with the use of "natural monopolization process dual perspective" presumption.
5. It would be rational to continue the adjusting and development of antitrust regulatory and legislative basis within the framework of modern day socially – economic challenges and globalized market state of affairs in order to on one hand neglect the negative side effect, caused by monopolies, and, on the other hand, to abstain from regulatory interference in situation when monopolization process has not yet reached the negation stage in order to give the market a chance to leverage its internal functioning, thus ensuring a coherent and economically justified resource allocation system, enabling the development of liberalised, consistent consumption orientated markets.

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