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Article

The Analysis of the Correlation between the Degree of Market Concentration and the Level of Consumer Protection

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THE ANALYSIS OF THE CORRELATION BETWEEN THE DEGREE OF MARKET CONCENTRATION AND THE LEVEL OF CONSUMER PROTECTION

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Abstract

The common aim of legislation in the field of competition and consumer protection is to ensure the consumers' sovereignty and well-being.

Based on the analysis of literature in this field we have established, as the main focus of our research, a study of the correlation between the degree of market concentration and the level of consumer protection. By using regression analysis applied to data collected from two sectors of activity, respectively the compulsory civil liability insurance for car owners and mobile telecommunications, we have shown that there is a direct correlation, meaning that a high degree of market concentration – which indicates a low competition level, leads to a decrease in the level of consumer protection.

Keywords: degree of market concentration, level of consumer protection, compulsory civil liability insurance for car owners, mobile telecommunications

JEL Classification: C21, L13, L96, G22

Introduction

The issues of consumer rights and consumer welfare are increasingly important, especially in the current economic competitive climate in which the ability to make informed choices represents a real advantage in consumers' daily life. (Dinu, et al., 2010)

The "competition-consumer" relationship is extremely complex, so the actual expression of consumer sovereignty is influenced by a wide range of elements, among which the most significant are, in our opinion: the degree of market concentration, the particularities of the

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sector of activity, the end user's level of education, the effectiveness of state authorities in ensuring compliance with legal provisions in the field of competition, as well as consumer protection.

Although most of the literature we have analyzed highlights the beneficial role of competition between organizations on consumer protection and well-being, we think that a rigorous demonstration of the correlation has only been partly carried out. Thus, one of the drawbacks we have identified is the lack of a rigorous and viable indicator to evaluate consumer protection in the scientific research in this field. Our research used as a specific indicator "the number of petitions conducted by consumers", addressed to the institutions legally entitled to protect their rights. The evaluation of competition was made by means of the Hirschmann Herfindhal Index, which measures the degree of market concentration in a specific sector of activity.

The main objective of our research was to demonstrate that there is a direct correlation between the market concentration and the consumer protection, in other words to check if a high degree of market concentration leads to an increase in the number of petitions filed by consumers, which proves that lower competition generates a decrease in the level of consumer protection.

Due to the fact that within any given sector of activity the number of organizations, on the one hand, and their size, on the other, varies, the degree of market concentration also has specific values. This is the reason why our research focused on data collected from two different sectors of activity, one with a large number of competitors, the other, with a significantly lower number.

The main stages of the research were the review of literature on the topic of the "competition-consumer" relationship, the selection of relevant indicators for evaluating the two areas of activity, the creation of the data base and the use of the linear regression method applied to specific data from the sector of compulsory civil liability insurance for car owners, respectively mobile telecommunications from Romania.

1. Scientific literature review

The main objective of competition regulations is to ensure the conditions that encourage the free functioning of the markets, so that consumers are provided with competitive goods and services. On the other hand, the main objective of consumer protection legislation is to ensure non-discriminatory access to information necessary for choosing the desired product, so that the purchasing decision is not influenced by coercion, deception or lack of important information (de Oliveira, 2001). Nevertheless, competition and consumer protection policies have a common final objective, both types of policies being designed to ensure consumer sovereignty. At International level, the European Commission states in the Report on Competition Policy that one of the main goals of European policy in the field of competition is to promote the consumers' interests, so that they can take full advantage of the wealth created by the European economy (Cseres, 2005). This involves the cumulative achievement of two conditions: the existence of choice options on the market and, respectively, the consumers' real freedom to choose from the existing options.

Anti-competitive market practices such as coordinated setting of prices, non-competitive mergers or vertical integration without sound economic reasons determine a decrease in the number of options available to the consumers. On the other hand, the violation of consumers' rights limits their real capacity to choose from the existing options. False or incomplete information regarding the characteristics of the product can also affect the consumer's ability to choose. The violation of fair competition policies is carried out by taking advantage of a dominating position, setting barriers against entering a sector or the existence of natural monopolies. All these factors are exogenous to the consumer and they should be controlled through specific competition legislation.

The perfect consumer, who is "fully informed, completely reasonable and extremely intelligent", is not vulnerable to the violation of rights specific to his quality. But even this type of consumer becomes "exposed" when fair competition regulations are breached (Lande, 1997).

Legislation in the field of consumer protection states that the main rights of the consumers are: the right to be protected against the risk of purchasing a good or be provided with a service that could endanger their life, health or safety or bring prejudice to their rights and interests; the right to be informed completely, correctly and precisely about the essential characteristics of goods and services, so that their decision about them is suited as much as possible to their needs; the right to be educated in their quality as consumers; the right to have access to markets that supply to them a wide range of high-quality goods and services.

Although at first sight it may seem that the two fields (competition and consumer protection) have specific objectives, in reality, the long-term objective is identical, being represented by ensuring the consumers' sovereignty and well-being (Hetham, 2014).

With regard to consumer well-being, this is defined as the maximization of surplus achieved through direct and explicit economic benefits received by the consumers of a well-defined product. The model based on consumer well-being argues that the fundamental purpose of competition is to prevent an increase in prices as a result of taking advantage of a dominant competitive position (Cseres, 2005). Lande shows that an essential objective of legislation in the field of competition is to ensure the existence of multiple options for the consumer. Their optimal level is reached when the consumer can define his own needs and have the ability to satisfy them at competitive prices (Lande, 1997).

According to specialty literature, competition between organizations generates a beneficial effect on consumers' well-being, as it offers them access to products and services with an increasingly competitive quality-price ratio (Shapiro, 2000). There are obviously other advantages that competition brings to consumers, such as the wider range of goods and services available on the market or the development of innovation which creates the basis for increased work productivity and improved standard of living (Aghion, 2005).

The relationship can also be approached from a different angle. The consumers play an important role in creating intense competition: the informed consumer forces the organizations to offer him what he desires. When the competitive process is influenced both by the consumers and by the organizations this leads to the creation of a virtuous circle (figure no. 1), which maximizes the beneficial effects of competition (Competition and Consumer Protection Commission, 2015).

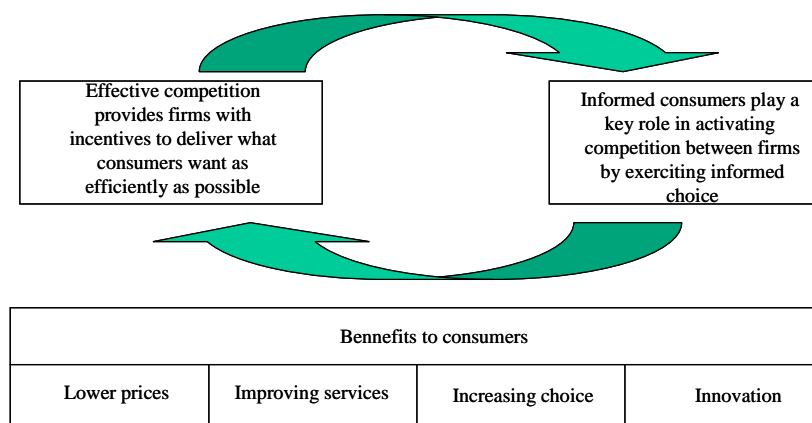


Figure no. 1: The virtuous circle of competition

Source: *Competition and Consumer Protection Commission, 2015, p. 8*

The “competition-consumer” relationship is very complex: for instance, economic concentration with anti-competitive effects can be allowed by competition authorities if increased efficiency is high enough to counter-balance the negative effects that can have an impact on the consumers’ protection and well-being (Belu, 2013).

Based on the SCP Paradigm (Structure-Conduct-Performance) from the field of industrial organization (Bain, 1956), our research has also tried to indicate whether the level of consumer protection, or, more exactly, the pressure exercised by the consumers, influences the structure of the markets and implicitly the degree of market concentration. Although it may sound counterintuitive, a significant increase of the consumers’ pressure on the operators in a given sector of activity does not seem to generate exclusively positive effects on the competition. This ambiguous effect is influenced by a set of factors (figure no. 2), which makes it difficult to identify rigorously the causes due to which the long-term reactions/ responses of operators from a certain sector to intensified pressure exercised by the consumers differ from short-term ones.

Although the first response of organizations subject to consumer pressure could be adopting a competitive conduct, on the long-term, due to decreased appeal of the sector of activity or even due to the risk of excessive regulation policies, the existing organizations can choose to leave the market, while others that would have been interested in entering the respective sector could postpone doing it. In this example, competition can be affected on the long-term together with the fundamental interests of the consumers: the variety of goods and services, the quality and the price. This is how a variable that is not the subject of much study and analysis (the direct protection of individual consumers or groups of consumers) can have a positive impact on the short-term conduct of the markets, but a negative impact on the long-term conduct.

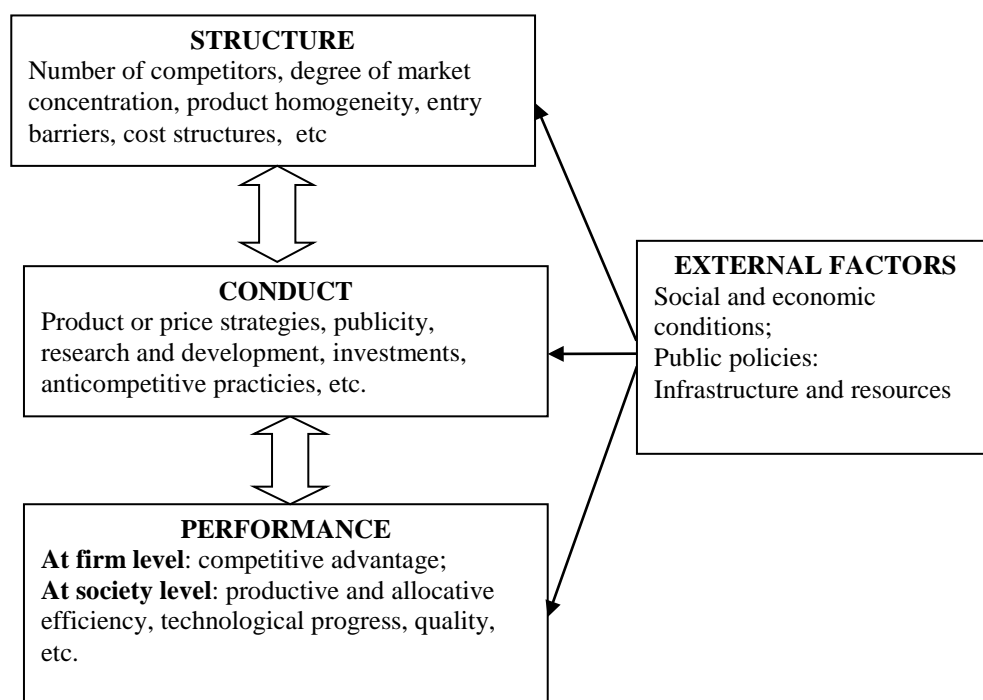


Figure no. 2: The incidence of external factors on structure, conduct and performance

Source: Waldman and Jensen, 2001, p. 7

2. Research methodology

The objective of our research was to analyse the correlation between the degree of market concentration and the level of consumer protection.

The hypotheses of the research were:

- H₁ – the intensity of the correlation between the degree of market concentration, on the one hand, and the level of consumer protection, on the other, differs from one sector of activity to the other;
- H₂ – the pressure exercised by consumers influences the degree of market concentration of a sector of activity.

For achieving the objective and testing the hypotheses we used several research methods, namely: documentary analysis, information gathering, data processing and empirical analysis, this being based on linear regression – a multivariate data analysis method.

The estimation of the degree of market concentration was made by using the Hirschmann-Herfindhal Index (HHI), obtained by adding up the square market share values of all the existing competitors from a sector of activity. The use of the HHI is justified by the fact that this is the most frequently used by competition authorities to evaluate the degree of market concentration.

The estimation of the level of consumer protection was made based on the indicator number of petitions filed to the entities entitled to ensure the protection of consumer rights and interests.

The choice of this indicator to evaluate the level of consumer protection is due to the fact that competition authorities consider that the number of petitions filed by the consumers represents a significant indicator for measuring the quality of goods and services in an activity sector. Furthermore, the existence of a large number of unsatisfied consumers can indicate that suppliers and service providers have an increased control of the market. There are obviously limitations involved by the use of this indicator, related mainly to the fact that it does not reflect the way in which petitions are resolved. However, a large number of petitions in a given sector indicates a state of dissatisfaction of the customers and can be used to show an image of competition.

The analysis of the correlation between the two indicators, respectively the degree of market concentration and the level of consumer protection was carried out by using the simple linear regression method, which allows to determine pairs of values (x_i, y_i) , $i=1, \dots, n$, corresponding to the two variables.

Testing the correlation was carried out based on data from the two sectors of activity from Romania: compulsory civil liability insurance for car owners (RCA) and mobile telecommunications. The main reason for focusing on these two sectors of activity is the different degrees of market concentration. Thus, in the sector of mobile telecommunications the existence of a low number of competitors leads to a high degree of market concentration and a high value of the HHI, while in the field of compulsory civil liability insurance for car owners (RCA) there is a significantly larger number of competitors, due to which HHI has lower values.

For each of the two sectors of activity the stages of the research were:

- collecting information from the period 2006-2015 about the value of gross written premiums, in the case of compulsory civil liability insurance for car owners (table no. 1), respectively the annual earnings for mobile telecommunications (table no. 2).

Data about the annual earnings in the sector of mobile telecommunications was collected both in lei and in euro, the conversion from lei to euro and respectively from euro to lei being made based on the average annual exchange rate (table no. 3). The sources of the data are presented in Annexes 1 and 2;

Table no. 1: The value of gross written premiums for the sector of compulsory civil liability insurance for car owners

million lei

Organization	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Euroins	0	0	100	233	264	243	390	466	443	685
Carpatica	55	55	39	150	262	174	238	414	481	512
Asirom	201	204	265	237	172	298	228	204	251	396
City Insurance	0	0	0	0	1	6	48	178	285	325
Omniasig	169	238	282	272	253	274	214	187	264	319
Astra	152	157	158	290	604	446	412	403	411	271
Allianz-Țiriac	149	181	198	230	222	154	175	206	221	255
Groupama	0	0	0	135	159	89	201	123	115	174
Uniqa	0	0	0	168	158	93	161	194	147	118
Generali	18	38	42	109	68	85	67	40	46	59
Ardaf	109	75	228	186	117	0	0	0	0	0
Asiban	79	76	77	54	0	0	0	0	0	0
BCR	35	130	127	166	209	107	0	0	0	0
BT Asigurări	96	89	102	0	0	0	0	0	0	0
OTP Garancia	6	8	51	10	0	0	0	0	0	0
Unita VIG	114	191	162	0	0	0	0	0	0	0
Eureko Asigurări	0	0	8	3	0	0	0	0	0	0
FATA Asigurări	0	0	0.25	0	0.37	0	0.14	0	0	0
CLAL România	0	1	1	0	0	0	0	0	0	0
Platinum	0	0	0	0	0	1	0	0	0	0
Asitrans	40	43	0	0	0	0	0	0	0	0
Interamerican	6	9	0	0	0	0	0	0	0	0
ABC Asigurări	4	4	4	7	6	2	2	7	8	0
Total	1231	1500	1844	2252	2495	1971	2137	2422	2671	3115

Source: See Annex 1

Table no. 2: The value of annual earnings for the sector of mobile telecommunications

million lei

Organization	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Orange	3817	4118	4824	4470	4161	3982	3635	3585	3417	3491
Vodafone	3525	3877	4323	3980	3468	3400	2953	2822	2651	2806
Cosmote	154	509	1145	1792	1973	1984	2063	2028	0	0
Telekom Romania	0	0	0	0	0	0	0	0	1912	1848
Telemobil	347	299	223	25	0	0	0	0	0	0
RCS-RDS	0	0	0	156	152	153	149	152	180	377
Total	7843	8803	10516	10268	9755	9519	8801	8587	7979	8522

Source: See Annex 2

Note: Telemobil was taken over by Cosmote in the middle of the year 2009 and the latter was bought by Telekom România in 2014

Table no. 3: The average exchange rate LEU/EUR 2006-2015

Year	Average EUR
2006	3.5245
2007	3.3373
2008	3.6827
2009	4.2373
2010	4.2099
2011	4.2379
2012	4.456
2013	4.419
2014	4.4446
2015	4.445

Source: www.bnr.ro/Raport-statistic-606.aspx

- identifying annual market shares (tables no. 4 and no. 5);

Table no. 4: Market shares in the sector of compulsory civil liability for car owners

Organization	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Euroins	0%	0%	5%	10%	11%	12%	18%	19%	17%	22%
Carpatica	4%	4%	2%	7%	11%	9%	11%	17%	18%	16%
Asirom	16%	14%	14%	11%	7%	15%	11%	8%	9%	13%
City Insurance	0%	0%	0%	0%	0%	0%	2%	7%	11%	10%
Omniasig	14%	16%	15%	12%	10%	14%	10%	8%	10%	10%
Astra	12%	10%	9%	13%	24%	23%	19%	17%	15%	9%
Allianz-Tiriatic	12%	12%	11%	10%	9%	8%	8%	9%	8%	8%
Groupama	0%	0%	0%	6%	6%	5%	9%	5%	4%	6%
Uniqa	0%	0%	0%	7%	6%	5%	8%	8%	6%	4%
Generali	1%	3%	2%	5%	3%	4%	3%	2%	2%	2%
Ardaf	9%	5%	12%	8%	5%	0%	0%	0%	0%	0%
Asiban	6%	5%	4%	2%	0%	0%	0%	0%	0%	0%
BCR	3%	9%	7%	7%	8%	5%	0%	0%	0%	0%
BT Asigurări	8%	6%	6%	0%	0%	0%	0%	0%	0%	0%
OTP Garancia	0%	1%	3%	0%	0%	0%	0%	0%	0%	0%
Unita VIG	9%	13%	9%	0%	0%	0%	0%	0%	0%	0%
Asitrans	3%	3%	0%	0%	0%	0%	0%	0%	0%	0%
Interamerican	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Total (%)	100	100	100	100	100	100	100	100	100	100

Table no. 5: Market shares in the sector of mobile telecommunications

Organization	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Orange	49%	47%	46%	44%	43%	42%	41%	42%	43%	41%
Vodafone	45%	44%	41%	39%	36%	36%	34%	33%	33%	33%
Cosmote	2%	6%	11%	17%	20%	21%	23%	24%	0%	0%
Telekom Romania	0%	0%	0%	0%	0%	0%	0%	0%	24%	22%
Telemobil	4%	3%	2%	0%	0%	0%	0%	0%	0%	0%
RCS-RDS	0%	0%	0%	2%	2%	2%	2%	2%	2%	4%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

- calculating the annual value of the Hirschmann Herfindhal Index (table no. 6);

Table no. 6: The annual value of the Hirschmann-Herfindhal Index

Sector	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
RCA	1059	1045	1002	923	1218	1313	1271	1289	1255	1321
Mobile telecommunications	4411	4173	3918	3705	3495	3462	3385	3384	3516	3252

- collecting information about the annual number of petitions filed by consumers (table no. 7);

Table no. 7: Annual number of petitions registered

Sector	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
RCA	477	771	1076	4047	5437	5558	7649	9247	8990	6741
Mobile telecommunications	54	66	138	307	353	309	369	423	797	879

Source: Annex 1 and 2

- applying the simple linear regression method using the Excel program.

3. Results

The use of the simple linear regression method for the sector RCA indicates that there is *direct correlation* between the degree of market concentration, measured by means of the HHI, on the one hand, and the level of final consumer protection, on the other.

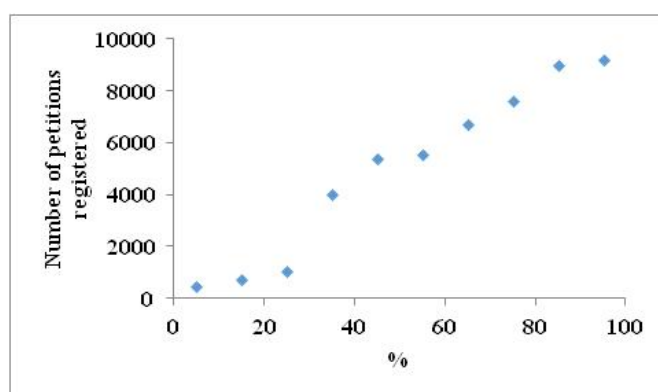
Thus, for the associations x_i , y_i in the case of HHI, number of registered petitions, the following regression equation is obtained:

$$y = -15,441 + 17.47x \quad (1)$$

The regression coefficient from the equation indicates a growth of approximately 17 petitions in the number of petitions if HHI increases by one unit. The solving algorithm involves determining the multiple correlation coefficient (R), the coefficient of determination, as well as other statistical characteristics (table no. 8).

Table no. 8: General statistics of the regression equation for the associations xi, yi in the case of HHI, number of registered petitions

SUMMARY OUTPUT						
Regression Statistics						
Multiple R	0.7743184					
R Square	0.5995689					
Adjusted R Square	0.549515					
Standard Error	2227.8076					
Observations	10					
ANOVA						
	df	SS	MS	F	Significance F	
Regression	1	59450661	59450661	11.97847	0.00855528	
Residual	8	39705012	4963126			
Total	9	99155674				
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	-15441.22	5947.8400	-2.596105	0.0318098	-29156.964	-1725.4766
IHH	17.473797	5.0487819	3.4609926	0.0085553	5.831284794	29.116309



Graph no. 1: The correlation xi, yi - HHI, number of petitions registered

The results show that the value of R is 0.77, which confirms the existence of a strong correlation between the number of petitions and the degree of market concentration in the sector RCA. The value of the coefficient of determination ($D = R^2$) is 0.60, which indicates that the variation of the number of petitions is determined, to an extent of 60%, by changes in the degree of market concentration, evaluated based on the HHI.

The research hypothesis no. 2 (H_2), according to which the pressures exercised by consumers influence the degree of market concentration in a sector of activity *is rejected*. Processing the information by means of the Excel program highlights the fact that in the field of compulsory civil liability insurance for car owners there is no x_i, y_i association between the level of consumer protection, measured by using the indicator number of petitions, on the one hand, and the degree of market concentration, measured by using the HHI, on the other.

For the sector of mobile telecommunications processing the information by using the Excel program highlights the fact that there is *direct correlation* between the degree of market concentration, measured by using the HHI, on the one hand, and the level of consumer protection, measured by using the indicator number of petitions registered, on the other.

Thus, for the x_i, y_i associations in the case of HHI, number of petitions registered, the following regression equation is obtained:

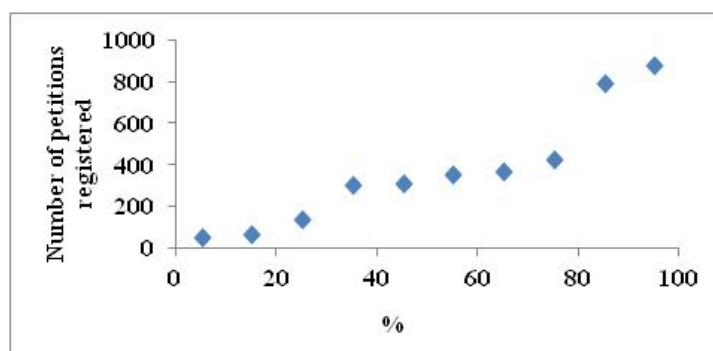
$$y = 2414.72 + 0.56x \quad (2)$$

The regression coefficient from the equation above indicates an increase of approximately 0.6 petitions in the number of petitions if HHI increases by one unit.

The solving algorithm involves determining the multiple correlation coefficient (R), the coefficient of determination, as well as other statistical characteristics (table no. 9).

Table no. 9: General statistics of the regression equation for the associations x_i, y_i in the case of HHI, number of registered petitions

SUMMARY OUTPUT						
Regression Statistics						
Multiple R	0.76040137					
R Square	0.57821024					
Adjusted R Square	0.52548652					
Standard Error	191.876464					
Observations	10					
ANOVA						
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regression	1	403759.87	403759.8	10.96679	0.0106725	
Residual	8	294532.62	36816.57			
Total	9	698292.5				
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	2414.71793	620.5627	3.891174	0.004601	983.6976715	3845.7382
IHH	0.55726490	0.168275	3.311615	0.010672	0.94530974	0.16922



Graph no. 2: Correlation xi, yi - HHI, number of petitions registered

The results show that the value of R is 0.76, which confirms that there is a strong correlation between the number of petitions and the degree of market concentration in the sector of mobile telecommunications. The value of the coefficient of determination ($D = R^2$) is 0.58, which indicates that *the dynamics of the number of petitions is determined to an extent of 58% by the variation of the degree of market concentration, measured by using the HHI*.

Research hypothesis no. 2 (H_2), according to which the pressures exercised by the consumers influence the degree of market concentration in a sector of activity *is rejected* for the sector of mobile telecommunications as well. Processing the information by means of the Excel program highlights the fact that there is no xi, yi association between the level of consumer protection, measured by using the indicator number of petitions, on the one hand, and the degree of market concentration, measured by using the HHI, on the other.

Research hypothesis no. 1 (H_1), according to which the intensity of the correlation between the degree of market competition, on the one hand, and the level of consumer protection, on the other, differs from one sector to another *is confirmed*. Thus, the variation of the number of petitions is determined to an extent of 60% by changes in the degree of market concentration in the sector of compulsory civil liability insurance for car owners, respectively to an extent of only 58% in the sector of mobile telecommunications.

Conclusions

The use of regression analysis on data regarding the compulsory civil liability insurance for car owners, respectively mobile telecommunications from Romania has indicated that there is direct correlation between the degree of market concentration and the level of consumer protection.

The main conclusion of our research is that competition between organizations has a favourable impact on consumers. Thus, both in the field of compulsory civil liability insurance for car owners and in the field of mobile telecommunications the dynamics of the number of annual petitions filed by consumers to the institutions entitled to protect their rights is mainly determined by changes in the market concentration of the sector of activity. The more concentration increases, the more the number of petitions increases, which indicates a reduced level of consumer protection.

In future stages of development of our research we aim to analyse the incidence of the degree of market concentration on the well-being of the consumers, measured by using the “average price paid” indicator.

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Annex 1 – Sources of the data used for the sector of compulsory civil liability insurance for car owners

Data	Source	Date of access
Gross written premiums 2006-2012	Annual CSA reports, available at: http://asfromania.ro/publicatii/rapoarte-anuale/rapoarte-anuale (Raport anual CSA 2006 - pag 77; Raport anual 2007 - pag 73; Raport anual CSA 2008 - pag 79; Raport anual CSA 2009 - pag 97; Raport anual CSA 2010 - pag 111; Raport anual CSA 2011 - pag 77; Raport anual CSA 2012 - pag 77)	5.09.2016
Gross written premiums 2013-2015	Authors' calculations based on information from Raport piețe supravegheate de ASF în anul 2015, pag. 76, available at http://asfromania.ro/publicatii/rapoarte-de-piata and information from the article Top asiguratori RCA in T1 2016: primele cinci companii controlau peste 80% din piață, available at: http://www.lasig.ro/Top-asiguratorii-RCA-in-T1-2016-primele-cinci-companii-controlau-peste-80-din-piata-articol-3,100-54410.ht	12.09.2016
Annual number of petitions 2006-2012	CSA reports, available at: http://asfromania.ro/publicatii/rapoarte-anuale/rapoarte-anuale (Raport anual CSA 2006 - pag 34; Raport anual 2007 - pag 35; Raport anual CSA 2008 - pag 68; Raport anual CSA 2009 - pag 82; Raport anual CSA 2010 - pag 98; Raport anual CSA 2011 - pag 66; Raport anual CSA 2012 - pag 64)	20.10.2016
Annual number of petitions 2013-2015	ASF reports, available at: http://asfromania.ro/publicatii/rapoarte-anuale/rapoarte-asf (Raport anual ASF 2013 - pag 204 și 206; Raport anual ASF 2014 - pag 297; Raport anual ASF 2015 - pag 95)	20.10.2016

Annex 2 – Sources of the data used for the sector of mobile telecommunications

Data	Source	Date of access
Cosmote 2006-2007	https://www.cosmote.gr/fixed/documents/10280/30244/OTE_Annual_Report_2007.pdf/592f3c01-0f33-4cdc-8530-ce3e670daedf	21.10.2016
Cosmote 2008-2011	https://www.cosmote.gr/fixed/documents/10280/30244/AnnuaI2010Ensmall.pdf/5394a678-c7ee-4a2c-8cd4-3ae299075eff https://www.cosmote.gr/fixed/documents/10280/30244/OTEAannual2011enforinternet.pdf/217dafd1-6a9d-4a12-bbed-67ff79b59d8b	21.10.2016
Cosmote 2012-2015	https://www.cosmote.gr/fixed/documents/10280/138879181/OTE_Annual_Report_2015_eng.pdf/dbb4a5ed-e053-4fb9-9c94-f9d2913955de	22.10.2016

Data	Source	Date of access
Telemobil 2006-2008	http://www.business24.ro/cfr/stiri-cfr/moody-s-atribuie-telemobil-un-rating-b3-si-o-perspectiva-stabila-702187 http://economie.hotnews.ro/stiri-telecom-5874004-update-cosmote-cumpara-zapp-romania-pentru-circa-207-milioane-euro.htm	24.10.2016
Orange, Vodafone, Telemobil 2007:	http://www.dailybusiness.ro/stiri-it-c/scad-marjele-de-profit-la-varful-pietei-telecom-orange-30-vodafone-23-16396/	26.10.2016
Orange 2008-2015	http://www.manager.ro/articole/itsic/veniturile-orange-romania-au-scazut-cu-7_8procente-in-2010-la-973-milioane-de-euro-4488.html https://www.idevice.ro/2013/02/20/orange-romania-anunta-rezultatele-financiare-pentru-anul-fiscal-2012/ http://www.wall-street.ro/articol/IT-C-Tehnologie/162619/orange-venituri-mai-mari-cu-1-8-in-2013.html http://economie.hotnews.ro/stiri-telecom-20798317-orange-romania-sfarsitul-anului-2015-venituri-947-milioane-euro-clienti-crestere-dar-numarul-abonati-serviciul-fost-sub-tinta-asumata.htm	26.10.2016
Vodafone 2008-2015	http://www.banknews.ro/stire/39174_veniturile_totale_ale_vodafone_romania_au_scazut_in_anul_fiscal_2009-2010_cu_21p_la_921,5_mil_euro.html http://bnews.ro.c50.mydomain.ro/telecom/?p=758 http://www.mediafax.ro/economic/veniturile-vodafone-romania-au-stagnat-la-aproape-704-milioane-euro-in-anul-fiscal-2013-2014-12637221 https://www.vodafone.ro/despre-noi/media/media/comunicate-de-presa-2016/vodafone-romania-anunta-rezultatele-financiare-pentru-anul-fiscal-2015-2016-incheiat-la-31-martie-2016/	27.10.2016
RCS-RDS 2009-2015	http://investors.rcs-rds.ro/annualReports.php	27.10.2016
Total number of users 2006- 2013	http://www.consiliulconcurentei.ro/uploads/docs/items/id9929/concurenta_in_sectoare_cheie_2014.pdf , http://www.ancom.org.ro/uploads/links_files/Raport_anual_2015_FINAL_ro_machetat.pdf	28.10.2016
Annual number of petitions 2006-2015	http://www.ancom.org.ro/rapoarte-anuale_268	08.09.2016