

DE-TARIFFICATION AND MARKET CONCENTRATION IN NON LIFE INSURANCE IN INDIA

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Abstract *The historical step of de-tariffication has brought in various significant changes in Indian general insurance sector and change in concentration in the market is among one of them. Market concentration is used to study the dominance of major players in the market and about the level and nature of competition in the market. Present study measures the concentration in general insurance sector in India over the period 2002-2003 to 2012-2013 with an aim to examine the change in the market concentration level during the pre and post full de-tariffication period by using HHI concentration index and concentration ratios based on the gross direct premium of the insurance firms. Our study finds a decline in concentration during the post full de-tariffication period. The result also suggests that decline in the concentration level during post full de-tariffication is directly attributable to significant rise in entry of new firms.*

Keywords: *De-Tariffication, Concentration, IRDAI, Non Life Insurance, HHI, Concentration Ratios*

INTRODUCTION

Indian non life insurance sector has passed through various changes since last two decades. Steps of liberalization and deregulation have changed the shape of the market that was dominated by the state owned insurance firms until 1999. Entry of private players proved successful in breaking the monopoly of public sector firms but still the industry was struggling with pricing inefficiency, low customer base, low profitability, unaffordable products and many others issues. The step of full de-tariffication was taken by IRDAI in FY 2007 to address the ongoing inconveniences of the non life insurance sector and to tap the untapped market potential.

De-tariffication, in simple terms is the process of opening up of the market to free pricing and flexible policy terms and conditions. In relation to the insurance, it is referred to freedom of an individual insurance firm in fixing the price of insurance products i.e. premium and also the policy terms, wordings, tariff rules and regulations. It was a cautious step of IRDAI taken to fulfill dual purpose of creating a free and self-responsible environment and boosting up the internal capabilities of the Indian non-life insurers. De-tariffication was expected to bring two major implications, one was transition from administered pricing to risk based pricing and another was product differentiation (“post-detariffing, 2007”). The step put the non life insurance sector in turmoil.

The industry started facing a rise in competition since then. The collective monopoly of four PSUs started getting weak with the entry of private players and it lost further in tariff free regime. The industry also witnessed various product innovations and operational innovations as result of enlarged competition. Thus de-tariffication came up with challenges for existing insurers in a sense of maintaining their market share and for the new entrants in terms of existence. The experience of post de-tariffication is not same for all countries. As in China’s de-tariffing in motor insurance in 2003, had negative impact in terms of severe competition that leads to major solvency issues for insurance firms which ultimately ended to re-tariffing, while in Japan, de-tariffing proved positive in terms of improved services, healthy competition, wide customer base, low prices for customers (Kozlowski & Perrin, 2009).

The De-tariffication in Indian General Insurance Sector Implemented in Two Rounds:

First round - in FY 2005-2006 in Marine Hull Risk segment (IRDAI, 2006). It leads to fall premium rates up to 40% along with increase in competition in marine hull segment. But due to small share in total premium in general insurance sector in India this step did not create much any significant effect (Sankaranarayanan, 2006).

Second round – completed in two phases:

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Phase I – started on Jan 1, 2007. Insurers were permitted to increase or decrease the premium for Fire, Engineering, Workmen's Compensation and motor own damage segment (IRDAI, 2007).

Phase II – started on March 2008. Insurers get complete freedom (except motor third party) on pricing including customization of products (IRDAI, 2008).

LITERATURE REVIEW

There are a number of empirical studies on measuring concentration but majority of studies focuses on manufacturing sector. Among the financial services sector banking is the most popularly picked up area for concentration studies. Insurance sector is lacking empirical researches on concentration due to a possible reason of lack of historical data especially in the developing and underdeveloped insurance market. Present study reviewed various foreign and Indian studies focused on market concentration in insurance sector. Among the foreign studies a study by Stich (1995) investigates the concentration in the Swedish and Finnish insurance market, explores oligopolistic structure by means of dominance measures, and defines the oligopolistic group. Murat, Tonkin, and Jüttner (2002) in their study measures competition in Australian general insurance for the year 1998 and finds less than perfect competition in the market. Their study uses various forms of market share as total assets, premium revenue and premium revenue plus investment income. Kramaric and Kitic (2012) in their study measures the concentration in insurance market of newly joined members of European Union during the study period 2000-2010 based on gross written premium and finds downward trend in concentration among all the members. Bikker and Propescu (2014) investigates effect of 2006 health reforms in Netherland on the efficiency and competition of insurance firms over the period 1995 to 2012 and finds rise in competition post reforms. Sharku and Shehu (2016) examines the evolution of the insurance market structure in Albania applying concentration measures CR1, CR4 and Herfindahl-Hirschman index for the period 2005 to 2015 for life insurance and non-life insurance activity, voluntary and compulsory insurance market, and for each class of non-life insurance. The study finds a rise in competition in insurance market over the study period and observes variation in market structure types among different insurance activities.

There are some studies on market concentration in Indian Insurance also like Acharya (2012) in his study analyzes the competition in Indian life and non life insurance sector for a nine year period from 2001-2002 to 2009-2010 applying various concentration measures and finds a decline in the measure. Sastry (2012) in his paper measures concentration in Indian insurance industry (life and non-life) over the

period 2003-2004 to 2007-2008 by using various measures based on total premium. His study further decomposes the concentration measures using the methodology suggested by Bajos and Salas (2004). The study finds a decline in concentration and rise in competition in both the life and non-life sectors but the life insurance shows more presence of competition than non-life sector. A study by Parida and Acharya (2016) measures and evaluates nature of competition in Indian life insurance industry for the period 2000-2001 to 2014-2015. Their study also adopts various concentration measures and finds a decline in concentration across all the indices over the study period.

We find a research gap in terms of non-existence of studies that highlights the issue of change in concentration arise due to de-tariffication in Indian general insurance sector.

OBJECTIVES

- To measure the concentration level in Indian General Insurance sector during the pre and post full de-tariffication.
- To comparatively evaluate the change in concentration for the period of pre and post full de-tariffication.

RESEARCH METHODOLOGY

The study covers a period of 12 years. The period has been divided in two sub periods of 6 years each for facilitating comparative study. The period of 2001-2002 to 2006-2007 has been taken as period I representing partial de-tariffication and period of 2007-2008 to 2012-2013 taken as period II representing period of full de-tariffication. The full de-tariffication begins on 1st Jan, 2007 i.e. last quarter of FY 2007. Thus the FY 2006-2007 does not reflect the complete one year of post de-tariffication hence is taken under the partial de-tariffication period.

Study includes all the firms in non life insurance sector including standalone health insurers those are in existence during the study period. To maintain the homogeneity in data the specialized general insurance firms namely General Insurance Corporation, Agriculture Insurance Corporation, Export Credit Guaranteed Corporations have been excluded from the study.

The present study is using two measures of concentration. One is the Herfindahl-Hirschman Index (HH Index/HHI) and another is concentration ratios C4 and C8. Both of these measures are calculated based on market share of the firm in their sector. So far, the related empirical studies in insurance have used various bases for calculating the market share of the firm. It has been measured alternatively, as total assets, premium revenue and premium income plus investment

income. Present study is using gross premium as a base of calculating the market share due to its homogeneity feature as insurer collects premium and out of the amount received from this collection uses it for rendering services later just like in other product and services. The concentration measures in the present study is calculated on the basis of *Gross Direct Premium (within and outside India)* that is total of premium received before considering reinsurance ceded and it also represents growth of a company's insurance business during a given period. The study also uses statistical tools *Correlation* to check relation between number of firms and measures of concentration and *ANNOVA* test to check any significant difference between two periods for measures of concentration.

CONCENTRATION MEASURES

(I) Concentration Ratios: Concentration ratios are the simplest and widely used method of measuring concentration based on the market share of the firm in the industry. It can be defined as the sum of market share of 'n' largest insurers in the market and in form of following formula:

$$CR_n = s_1 + s_2 + s_3 + \dots + s_n = \sum_{S=i}^n S_i$$

Where, 'n' denotes the number of insurance companies, S_i denotes share of the i th insurance company ($i=1, 2, \dots, n$). Yearly analysis of this ratio provides information about change in market shares of top n firms. This ratio ranges from 0 to 1. If the value of the ratio comes, 0 that means there is no concentration in the market and it indicates towards perfect competition or at the very least monopolistic competition.

A ratio of 100% or 1 (in fraction) means that the market is extremely concentrated and a situation of oligopoly is there in the market.

Present study is using two concentration ratios C4 and C8. The C4 and C8 ratio represents the top four and top eight shareholders in the market respectively.

(II) HH INDEX: The most common measure of concentration used in the empirical studies is Herfindahl-Hirschman Index (HHI). HH Index or HHI score is a measure of market share of the firm or the size of the firm in relation to the industry. It is also an indicator of the amount of competition exists among the firms in an industry.

The advantage of using HH Index over concentration ratios is that it does not give more weightage to the larger firms like C4 ratio, C8 ratio and other concentration ratios. A higher index indicates a decrease in competition and increase in market power of major players. Small index indicates competitive industry with no dominant players.

Herfindahl-Hirschman Index (HHI) is defined as follows:

$$HHI = \sum_{i=1}^n S_i^2$$

Where S is the market share of company, i and n equals the number of insurance companies in the Indian general insurance industry.

This index ranges from 0 to 1 (in fraction). The value of 0 is an indicator of perfect competition while value of 1 represents monopoly in the market.

ANALYSIS

Table 1: Yearwise Display of Concentration Scores of HHI, C4 And C8 Ratio Based on Gross Direct Premium (Within and Outside India) of Indian Non Life Insurance Companies

DE-TARIFFICATION	YEAR	addition in no.		HHI score	YEAR WISE CHANGE IN		C4	YEARWISE CHANGE IN		C8	YEAR WISE CHANGE IN		C8-C4
		no.of firms	Of firms		RANK	HHI		RANK	C4		RANK	C8	
						(%)			(%)			(%)	
partial	FY02	10		0.247	1		0.962	1		0.992	1		2.980
	FY03	12	2	0.220	2	-10.584	0.992	2	3.096	0.973	2	-1.874	-1.859
	FY04	12	0	0.199	3	-9.865	0.864	3	-12.958	0.962	3	-1.180	9.847
	FY05	12	0	0.179	4	-10.000	0.810	4	-6.203	0.955	4	-0.764	14.468
	FY06	12	0	0.161	5	-10.015	0.749	5	-7.563	0.951	5	-0.364	20.247
	FY07	12	0	0.139	6	-13.522	0.667	6	-10.973	0.930	6	-2.223	26.348
full	FY08	14	2	0.127	7	-9.002	0.615	7	-7.769	0.917	7	-1.387	30.237
	FY09	16	2	0.119	8	-6.398	0.597	8	-2.831	0.888	8	-3.129	29.107
	FY10	17	1	0.111	9	-6.730	0.592	9	-0.903	0.842	9	-5.255	24.978
	FY11	19	2	0.106	10	-3.884	0.582	10	-1.655	0.815	10	-3.190	23.272
	FY12	19	0	0.103	11	-2.705	0.574	11	-1.455	0.792	11	-2.865	21.785
	FY13	21	2	0.100	12	-3.641	0.555	12	-3.190	0.782	12	-1.153	22.702
	average			0.151			0.713			0.900			18.676

Source: Authors' calculations

Table 2: Name of the Companies in C4 and C8 RATIOS

DE-TARIFFICATION	YEAR	NAME OF THE CO. IN C4	NAME OF THE CO. IN C8
partial	FY02	NATIONAL, NEW INDIA, ORIENTAL, UNITED	COMPANIES IN C4 + BAJAJ ALLIANZ, RELIANCE, ROYAL SUNDARAM, TATA AIG
	FY03	NATIONAL, NEW INDIA, ORIENTAL, UNITED	COMPANIES IN C4 + BAJAJ ALLIANZ, ICICI LOMBARD, IFFCO TOKIO, TATA AIG
	FY04	NATIONAL, NEW INDIA, ORIENTAL, UNITED	COMPANIES IN C4 + BAJAJ ALLIANZ, ICICI LOMBARD, IFFCO TOKIO, TATA AIG
	FY05	NATIONAL, NEW INDIA, ORIENTAL, UNITED	COMPANIES IN C4 + BAJAJ ALLIANZ, ICICI LOMBARD, IFFCO TOKIO, TATA AIG
	FY06	NATIONAL, NEW INDIA, ORIENTAL, UNITED	COMPANIES IN C4 + BAJAJ ALLIANZ, ICICI LOMBARD, IFFCO TOKIO, TATA AIG
	FY07	NATIONAL, NEW INDIA, ORIENTAL, UNITED	COMPANIES IN C4 + BAJAJ ALLIANZ, ICICI LOMBARD, IFFCO TOKIO, RELIANCE
	FY08	NATIONAL, NEW INDIA, ORIENTAL, UNITED	COMPANIES IN C4 + BAJAJ ALLIANZ, ICICI LOMBARD, IFFCO TOKIO, RELIANCE
full	FY09	NATIONAL, NEW INDIA, ORIENTAL, UNITED	COMPANIES IN C4 + BAJAJ ALLIANZ, ICICI LOMBARD, IFFCO TOKIO, RELIANCE
	FY10	NATIONAL, NEW INDIA, ORIENTAL, UNITED	COMPANIES IN C4 + BAJAJ ALLIANZ, ICICI LOMBARD, IFFCO TOKIO, RELIANCE
	FY11	NATIONAL, NEW INDIA, ORIENTAL, UNITED	COMPANIES IN C4 + BAJAJ ALLIANZ, ICICI LOMBARD, IFFCO TOKIO, RELIANCE
	FY12	NATIONAL, NEW INDIA, ORIENTAL, UNITED	COMPANIES IN C4 + BAJAJ ALLIANZ, ICICI LOMBARD, IFFCO TOKIO, HDFC ERGO
	FY13	NATIONAL, NEW INDIA, ORIENTAL, UNITED	COMPANIES IN C4 + BAJAJ ALLIANZ, ICICI LOMBARD, IFFCO TOKIO, HDFC ERGO

HHI Index: As the Table 1, shows the index during partial de-tariffication remains above the average HH index of the study periods i.e. 0.15 except in FY 2006-07. During period of partial de-tariffication only 2 new firms entered the market i.e. in FY 2002-03 and no new firm entered after de-tariffication of marine hull segment. On further analysis our study finds an almost constant yearly decline of around 10% throughout the period of partial de-tariffication. This decline is an indication of melting oligopoly of public sector insurers. Post full de-tariffication period also witnesses a decline in HH Index but lesser as compared to the partial de-tariffication period. The period also witnessed the entry of 9 new private players in the market, which is much higher than in previous period. The level of HH index remains below the average, between 0.09 to 0.15 throughout the period that shows an indication of diluting dominance of major players i.e. PSUs. Partial de-tariffication period also reflects higher HHI scores than post full de-tariffication period indicating less competition in period I as compare to period II but the decline in HHI score is high in period I as compare to period II.

Concentration Ratio C4: The ratio represents the share of 4 major shareholder of the market. As the Table 2 shows in present study this belongs to the total share of the four public sector insurers (New India Assurance, National insurance, Oriental Insurance and United India Insurance) as they stands as the biggest market players throughout the study period. The Table 1 shows a high level of concentration in first four years of partial de-tariffication. FY 2002-03 shows a rise in ratio even after the entry of 2 new firms but after that it starts getting decline. The highest decline is visible in year 2003-2004 a year after entry of 2 new private players (Cholamandalam and HDFC Ergo). The share of C4 remains 80% and above during first four years of partial

de-tariffication period reflecting a clear dominance of PSUs in the market but in following 2 years the ratio declined almost 15% and reaches to 66.65 % from 80.99% within two years. During post de-tariffication period the C4 ratio remains below the average C4 ratio (71.32%) of the study period and in all the years post full de-tariffication shows medium concentration level. The ratio depicts a declining trend in both the pre and post full de-tariffication period but the decline in former period is higher than the previous. Post full de-tariffication period shows a decline of almost 14% while it is 30% in partial de-tariffication period. This clearly shows that the monopoly of public sector insurers (major market holders) starts getting affected during the period of partial de-tariffication itself and keeps on declining during post de-tariffication period.

Concentration Ratio C8: Concentration ratio C8 shows the share of major 8 players of the market. In present study C8 ratio shows the share of all the 4 public sector insurers (being present in C4 ratio throughout the study period) and major 4 private sector general insurance firms. The Table 1 shows that the C8 ratio during partial de-tariffication remains above the average C8 of the study period i.e. 90%. The results of C8 ratios in the study varies that of C4 ratios as the post de-tariffication C8 ratios are high and more over the decline in ratio is higher in post de-tariffication rather during pre-detariffication as contrast to the C4 ratios and also the concentration level of top 8 firms remains high throughout the study period. During partial de-tariffication concentration level of major four private players improved from 2% to 26% while post de-tariffication it declined from 30% to 22%, this decline is attributable to the entry of new firms in period II.

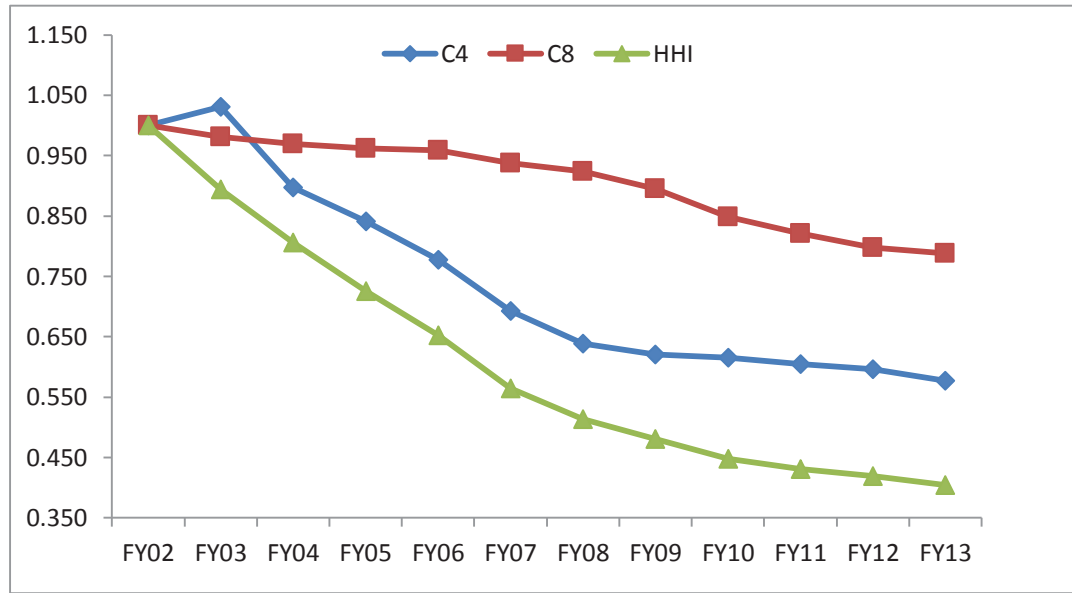


Fig. 1: Concentration Curves of Indian General Insurance Industry (Gross Direct Premium Within and Outside India)

Correlation between Number of Firms and Measures of Concentration: as the Table 3 shows a strong negative correlation between the number of firms and measures of concentration during both partial and full de-tariffication period except for C4 ratio in partial de-tariffication. This reflects that entry of new firms are negatively related with the concentration measures used in the study and signifies

that fall in concentration in the general insurance industry is attributable to the entry of new firms. Further the values of negative correlation stands higher in full de-tariffication along with the rise in the entry of new firms as compare to partial de-tariffication. This indicates that full de-tariffing regime brings a change in the market in form of entry of many new private players that result in decline in market concentration.

Table 3: Correlation Between Number of Firms and Concentration Measures

CORRELATION	partial de-tariffication		full de-tariffication	
	BETWEEN NO. OF FIRMS AND HHI	-0.693981535	STRONG NEGATIVE	-0.979719229
BETWEEN NO. OF FIRMS AND C4 RATIO	-0.477742994	LOW NEGATIVE	-0.983297483	STRONG NEGATIVE
BETWEEN NO. OF FIRMS AND C8 RATIO	-0.732943963	STRONG NEGATIVE	-0.968348986	STRONG NEGATIVE

Source: Authors' calculation

ANNOVA test for checking significance of difference between two periods for measures of concentration: ANNOVA Test is used in the present study to check whether there is any significant difference in the values of measures of concentration for the period of partial de-tariffication and

full de-tariffication. The result shows a significant difference in partial and full de-tariffication period for all the measures of concentration. This reflects that de-tariff regime brings change in the concentration.

Table 4: ANNOVA Test for Checking the Significance Difference in Mean Scores of Concentration Measures for Partial and Full De-Tariffication Period

ANNOVA TEST						
CONCENTRATION MEASURE	HHI		C4		C8	
DE-TARIFFICATION	PARTIAL	FULL	PARTIAL	FULL	PARTIAL	FULL
	period I	period II	period I	period II	period I	period II
<i>difference in periods I & II at ALPHA 0.05</i>	significant		significant		significant	
<i>difference in periods I & II at ALPHA 0.01</i>	significant		significant		significant	

Source: Authors' calculations

CONCLUSION

The effect of de-tariffication regime on market concentration is not possible to measure directly as it carries multiple and multilayered effects that would be realized both in short run and long run in the market. The objective of de-tariffication in Indian general insurance sector was to enhance healthy competition in the market so that the benefits of lower product pricing can pass on to the customers. The purpose was also to encourage new firms to enter that would further boost up the competition and rise in insurance penetration in India. Present study finds evidence of change in concentration level in the Indian general insurance market during the study period. The result of ANNOVA test further marks the change as significant. The full de-tariffication regime leads to setting up of a free environment that encourage new firms to enter the market and that results in rise in number of new firms followed by fall in concentration during post full de-tariffication. Another interesting finding of the study is the reason of fall in concentration during the two periods. The HHI concentration measure declines during both periods but during period I the major four (firms in C4 ratio) shares falls more aggressively as compare to period II due to rise in share of major four private players. During period II decline in HHI and C4 is not as steep as in period I whereas there is sharp decline in C8 ratio because of fall in share of major four private players. Moreover the fall in concentration in period II shows a clear sign that share of existing private insurers get effected due to the entry of new firms during post de-tariffication period. The correlation between number of firms and concentration level also supports this. Freedom in the market for pricing and for policy wordings because of full de-tariffication leads to a significant rise in the number of firms post de-tariffication that has contributed in reduction in the share of existing firms specially the major private players of the market.

The major findings of the study witnesses a fall in dominance of big players in terms of fall in concentration during both pre and post full de-tariffication. Wherein the monopoly

of PSUs' get affected due to rise in share of major private insurers in period I while in period II market holding of top private players get effected along with the PSUs' firms due the entry of new firms in the market. Fall in concentration during period II is a result of change in market behavior arises as an outcome of de-tariffication regime.

The overall results suggests that de-tariffication has contributed to the change in concentration level of the Indian general insurance but it is not the sole factor responsible for that as the changes in concentration appear even before the full de-tariffication regime initiated. The study leaves scope for future research in the area of analyzing the change in concentration level in the Indian general insurance in relation with some other factors like financial performance, managerial performance and efficiency of the public and private sector insurance firms to find some close reason of declining share of PSU's and rising share of private insurers.

REFERENCES

- Acharya, D. (2012). *Competition in insurance sector: Issues and evidences*. UGC Major Research Project Report, New Delhi.
- Bajo, O., & Salas, R. (2002). Inequality foundations of concentration measures: An application to the Hannah-Kay indices. *Spanish Economic Review*, 4, 311-316.
- Bikker, J., & Propescu, A. (2014). Efficiency and competition in the Dutch non-life insurance industry: Effects of the 2006 health care reform. DNB Working Paper No. 438 / September 2014.
- Insurance Regulatory Development Authority. (2006). Annual report 2005-06, Hyderabad. Retrieved from https://www.irdai.gov.in/ADMINCMS/cms/frmGeneral_Layout.aspx?page=PageNo114&flag=1
- Insurance Regulatory Development Authority. (2007). Annual report 2006-07, Hyderabad. Retrieved from https://www.irdai.gov.in/ADMINCMS/cms/frmGeneral_Layout.aspx?page=PageNo315&flag=1

- Insurance Regulatory Development Authority. (2008). Annual reports 2007-08, Hyderabad. Retrieved from https://www.irdai.gov.in/ADMINCMS/cms/frmGeneral_Layout.aspx?page=PageNo462&flag=1
- Insurance Regulatory Development Authority (2016). *Handbook on Indian Insurance Statistics, 2014-15*, Retrieved from https://www.irdai.gov.in/ADMINCMS/cms/frmGeneral_Layout.aspx?page=PageNo2807&flag=1
- Kozlowski, R. T., & Perrin, T. (2009). Detariffication in non-life Insurance: Observations and opportunities, *11th Global Conference of Actuaries*, Mumbai, India: Institute of Actuaries of India. Retrieved from <http://www.actuariesindia.org/downloads/gcadata/11thGCA/Detariffing%20Presentation.pdf>
- Kramaric, T. P., & Kitic, M. (2012). Comparative analysis of concentration in insurance markets in new EU member states. *International Journal of Social, Behavioural, Educational, Economic, Business and Industrial Engineering*, 6(6), 1322-1326.
- Murat, G., Tonkin, R. S., & Jüttner, D. J. (2002). Competition in the general insurance industry. *Zeitschrift für die gesamte Versicherungswissenschaft*, 91(3), 453-481. Retrieved from <https://doi.org/10.1007/BF03190772>
- Parida, T. K., & Acharya, D. (2016). Competition in Indian life insurance industry: Post liberalisation evidence. *International Journal of Business Competition and Growth*, 5(1-3), 110-135.
- Post-Detariffing Pricing Strategy. (2007, Feb., 12). *The Financial Express*. Retrieved from <http://www.financialexpress.com/archive-post-detariffing-pricing-strategy/47129/>
- Sankaranarayanan, K. (2006). Transition to non-tariff regime-issues before Indian insurance industry, *8th Global Conference of Actuaries*, Mumbai, India : Institute of Actuaries of India. Retrieved from https://www.actuariesindia.org/downloads/gcadata/8thGCA/Transition%20To%20Non-tariff%20Regime_Karpagam%20Sanka.PDF
- Sastry, D. V. S. (2012). Concentration and Indian insurance. *Journal of Quantitative Economics*, 10(2), 42-58.
- Sathe, A. (2009). General Insurance Industry in India, 2009 Casualty Loss Reserve Seminar September 14, 2009, Chicago, U. S. A.: Casualty Actuarial Society, (power point presentation). Retrieved from <https://www.casact.org/education/clrs/2009/handouts/intnl1sathe.pdf>
- Sharku, G., & Shehu, S. (2016). Concentration of Albanian insurance market. *Ekonomika a Management*, 2016(3). Retrieved from <https://econpapers.repec.org/RePEc:prg:jnleam:v:2016:y:2016:i:3:id:279>
- Stich, A. (1995). Insurance and concentration: The change of concentration in the Swedish and Finnish insurance market 1989-1993, Discussion paper in statistics and econometrics. *Seminar of economic and social statistics*. University of Cologne. Retrieved from <http://hdl.handle.net/10419/45477>