A Comparative Analysis on the Financial Performance between Takaful and Conventional Insurance Companies in Bahrain during 2006-2011

Sutan Emir Hidayat[1]
Aaleya Mohammed Abdulla[2]

Abstract

The purpose of this study is to comparatively analyze the financial performance of Takaful and that of the Conventional Insurance companies in Bahrain during 2006-2011 in terms of solvency, liquidity, profitability, underwriting performance and efficiency. Financial ratios for insurance industry have been adapted to comparatively analyze the financial performance of the two types of insurance systems using data collected from the Central Bank of Bahrain (CBB) Insurance Decennial Report of 2006, 2008, 2010, 2011 and 2012. Unlike most of the theoretical arguments which state that Islamic finance (including Takaful) should perform better than the conventional finance (insurance) in all aspects of financial performance, this study establishes a finding that the conventional insurance companies in Bahrain are more profitable and efficient than their Takaful counterparts. This study is expected to provide the insurance stakeholders a realistic picture of the financial position of Takaful and conventional insurance in Bahrain during the period of time from 2006 to 2011

Keywords: *Takaful, financial performance, financial ratios, t-test, Bahrain.*

1. INTRODUCTION

Insurance is a risk management tool by which the individual or entity transfers a specified risk to an insurance company in return of a determined premium (CII, 2011). Actually, the concept of insurance has been in existence since long time. Around 600 years BC, a form of insurance contract had been found in the Babylonian

[1] Corresponding author Assistant Professor, Business Department, University College of Bahrain

[2] Manager, General Takaful, Medgulf Takaful, Bahrain

society and was known as the bottomry contract. In Islamic history, a kind of insurance could also be identified during the life of the Prophet Muhammad especially duirng the implementation of the Aqila system. Aqila is a kind of Arab tribal social insurance in which, if any member of a tribe happened to be killed by a member of another tribe, the heir of the victim would be paid blood money (Diyat) as compensation by close paternal relatives of the killer (Hidayat, 2010).

At present Insurance is mostly managed by a joint stock company whose main objective is to maximize the wealth of its shareholders. Many Islamic jurists (ulama) consider insurance as prohibited (haram) since in practice it involves the elements of riba (usury), maysir (gambling), gharar (ambiguity) that are against Shariah. However, the prohibition here is not for the concept of insurance; rather it is against the prevailing practice of conventional insurance. For that reason, contemporary Islamic jurists have performed Ijtihad that resulted in the creation of the first Islamic insurance (Takaful) company in Sudan in 1979. The ultimate objective of the establishment of the Takaful Company has been to strengthen solidarity, brotherhood and mutual cooperation among the members of a society (Hidayat, 2010). In addition, many scholars believe that Islamic finance in general (including Takaful) should execute better than that of the conventional financial systems in all aspects in its financial performance (Ahmed, 2009; Ahmed, 2010).

Takaful has been growing tremendously for the last decade. The World Takaful Report 2012 indicates that the Compound Annual Growth Rate (CAGR) of the industry stood at 29% from 2005-2009 contemplating the GCC region as the main driver. Among the GCC members, Bahrain is considered as one of the most vital markets for Takaful with CAGR of 55% during 2005-2009. The position of Bahrain being one of the prominent world's Islamic financial centers has made the development of Takaful industry in the Kingdom highly significant.

Takaful is an integral part of Islamic financial system, thus an effective and efficient Islamic financial system is impossible to exist without the support of a well developed Takaful industry. Realizing the importance of Takaful industry, the Central Bank of Bahrain (CBB) has issued a comprehensive regulatory Framework for the industry. As a result, Bahrain is known to have a better regulatory system for Takaful than other the GCC countries (Wilson, 2009).

Despite the above explanations, to the best knowledge of the authors there has not been any available prior study that can empirically compares the financial performances of the Takaful and that of the conventional insurance in the Kingdom. Therefore, this study attempts to fill the gap by comparatively analyzing the financial performance between Takaful and conventional Insurance in Bahrain during 2006-2011 using financial ratios for insurance compamies in terms of liquidity, solvency, profitability, underwriting performance and efficiency.

This study is expected to provide insurance stakeholders a true picture of the financial position of Takaful and conventional insurance in the Kingdom of Bahrain during the year 2006 to 2011.

2. LITERATURE REVIEW

2.1 Bahraini Insurance Sector

Being acclaimed as one of the outstanding financial hubs in the Middle East, Bahrain has given prime importance to the development of the Insurance Industry. The economy of Bahrain relies heavily on the financial services' sector. It is the country's largest single employer and the sector contributed around 27% of the country's overall GDP (CBB, 2011). Given its magnitude, the government of Bahrain has created a prudent and judicious policy of continuous enhancement in the legal and regulatory infrastructure.

For the insurance sector, Bahrain is adopting a dual insurance system where the conventional and the Islamic (Takaful) companies are operating side by side. Insurance in Bahrain started in 1950s when a group of taxi drivers formed a mutual insurance company by providing third party insurance for their vehicles. Norwich Union was the first insurance company established in Bahrain in 1950s. Marine all risk for pearls consignment from Dhow to Aden was the first policy which had been issued by the Norwich Union. Currently, there are 15 local conventional insurance companies (including 2 re-insurance companies), 11 foreign branches and 6 representative offices of foreign insurance companies operating in the kingdom. On the other hand, there are 7 Takaful and 2 Re-Takaful companies offering Shariah compliant insurance services in the country. In addition, the kingdom has 38 conventional and 9 takaful offshore companies serving the insurance needs of the GCC markets[i]. The insurance sector in Bahrain is regulated and supervised by CBB.

In fact, CBB is the single regulator for the whole financial sytem in Bahrain. Being one of the world's promoters of Islamic finance, the kingdom has issued a comprehensive regulatory framework for the Takaful insudtry. The CBB regulatory framework for Takaful has been regarded as the best in the GCC (Wilson, 2009).

2.2 Previous empirical studies on Takaful companies' financial performance.

There are relatively limited studies that have empiricallly analyzed the performance of Takaful companies. Some studies such as Saad et. al (2006) comparatively analyzed the performance of conventional and Takaful companies in Malaysia during 2002-2005. Data Envelopment Analysis (DEA) has been adapted as an analysis method for efficiency measurement. The Malmquist indexe was used for efficiency measurement. The studies have established that as a result of the increase in public awareness of Islamic finance, the competitiveness of the Takaful industry has been significantly enhanced. The studies have also concluded that Takaful has been considered to be a competitive industry to the conventional insurance.

In another study, Saad (2012) extended the period of his earlier study from 2002-2005 to 2007-2009 and concluded that the overall efficiency of the Takaful companies is found to be below than its conventional counterparts. In addition, the study also concluded by suggesting that Takaful and Insurance companies' total factor productivity has to increase through effective technical component techniques such as optimizing the use of information and communication techniques to provide better customer service.

Antonio et. al (2013) also comparatively analyzed the cost efficiency between Takaful and conventional insurance in Malaysia over the period of 2009-2011 using DEA. Antonio et. al (2013) actually extended the period of Saad's (2012) study. Antonio et. al (2013) found that conventional insurance companies performed more efficiently than Takaful companies during this period thus confirming the findings of Saad (2012).

Miniaoui and Chaibi (2014) comparatively analyzed the technical efficiency of the Takaful companies in GCC and those in Malaysia during 2006-2009. Using the Data Envelopment Analysis (DEA), as the analytical tool, the study established that Takaful companies in the GCC have better technical competence than their Malaysian

counterparts. Using Kruskal Wallis H-test, the study also found that the difference in the technical efficiency is statistically significant.

The above previous studies only focused on comparing the efficiency aspect of financial performance between Takaful and conventional insurance companies. None of them cover other aspects of financial performance such profitability, liquidity and asset quality. In addition, none of them evaluated the financial performance of Takaful companies in Bahrain. Therefore, this study attempts to fill the gap by extending the works established in the previous studies. This study relatively analyzes all the aspects of the financial perfomance comparing the Takaful and conventional insurance companies in Bahrain during 2006-2011 using common financial ratios for insurance companies.

3. RESEARCH METHODOLOGY

3.1 Data collection

The financial data has been collected from the Central Bank of Bahrain (CBB) Insurance Decennial Report of 2006, 2008, 2010, 2011 and 2012. This study compares the overall financial performance of Takaful and conventional insurance companies in Bahrain and not per individual institution.

3.2 Research Method

The method of comparison is common financial ratios for insurance companies. The financial ratios are the most popular analysis techniques used to measure a company's strengths and weaknesses as compared to other companies within the same industry (Wild et.al, 2008). This study utilizes five categories of insurance industry ratios namely solvency, liquidity, profitability, underwriting performance and efficiency ratios (CII, 2011). Additionally, the t-test is used in order to test the significant differences between ratios of Takaful and conventional insurance companies.

3.2.1 Solvency Ratio

The Solvency ratio for the insurance companies is considered to be the size of the capital in relation to the company's premium written. The solvency ratio assists in risk management assessment for the claims that cannot be absorbed (Horngren et.al, 1999). It’s mainly used to measure a company’s ability to meet its long- term

obligations (solvency). Company's size measurement is based on the size of a company's after tax- income, excluding noncash depreciation expenses, in comparison to the firms total debt obligations. The company's ability to survive in the market and meet its obligation is the solvency ratio measurement objective. The higher the figures the stronger and healthier is the company solvency position (Fridson and Alvarez, 2011).

Solvency Ratio Formula:	$\frac{\text{Net Assets}}{\text{Earned Premium net of Reinsurance}}$

3.2.2 Liquidity Ratio

Liquidity ratio is used to determine the company's ability to meet its short term obligation. The lower the ratio means the greater the liquidity of a company (Hormgren et. al, 1999).

Liquidity Ratios Formula:	$\frac{\text{Total Liabilities}}{\text{Cash + Investment}}$

3.2.3 Profitability Ratios

Insurance company's earnings in relation to the expenses and cost incurred for a specific time period are measured through the use of the profitability ratios. The ratios indicate insurance companies' profitability after making an appropriate provision for the general expenses, income tax, pricing policies and efficiency of the operation. In this study, the most common profitability ratio namely Return on Equity (ROE) is used to comparatively evaluate the two insurance systems.

Return on Equity (ROE)

Return on equity (ROE) is considered to be the ratio of the net income of a corporation during a period of one year in relation to its shareholders' equity during the same period. Insurance company's profitability is measured by the use of ROE as an indication to measure the amont of profit being generated from the invested shareholders' money. It reveals the net income as percentage of the shareholder's equity. The higher the ratio the better, as it indicates the efficiency of the company in generating net income from its equity (Fridson and Alvarez, 2011).

ROE Formula:	Net Income

Shareholder's Equity/Capital

3.2.4 Underwriting Performance Ratios

The combined ratio

The combined ratios are used by the insurance company as a measurement for the company's underwriting performance and day to day operation efficiency in comparison to its competitors. The ratio indicates the sufficiency of premium calculated to cover the cost of claims and expenses (Greena and Seegal, 2004). Expenses are reinsurance cost, claim handling, underwriting and administration. This ratio will be calculated through combining loss, expenses and commission ratios.

Claim Ratio:	Claim Paid net of reinsurance / Earned premium net of reinsurance	x 100
Expenses Ratio:	Administrative expenses / Earned premium net of reinsurance	x 100
Commission Ratio:	Acquisition Costs / Earned premium net of reinsurance	x 100

The combined ratios do not account for investment income and traces only the underwriting performance; therefore, the ratios do not provide a complete picture of the company's performance. A combined ratio below 100% indicates a good underwriting performance, while above 100% indicates a poor underwriting performance[ii].

3.3.5 Operating Efficiency Ratio

Total Asset Turnover

Total asset turnover measures a company's ability to generate sale by an efficient use of the company's existing total assets. A ratio of 3 will mean that for every dollar

invested in total assets, the company will generate 3 dollars in revenues. A Higher ratio indicates more efficiency in the assets' utilization, while a low ratio is a sign of poor assets management (Fridson and Alvarez, 2011).

Total Asset Turnover Ratio: $\frac{\text{Net sales}}{\text{Average Total Assets}}$

4. ANALYSIS AND FINDINGS

4.1 Ratio Analysis

Table 1 summarizes the solvency ratio results for Takaful and conventional insurance companies in Bahrain during 2006-2011. Based on the table, in general Takaful companies in Bahrain have better solvency position than their conventional counterparts during 2006-2011 as it is shown by the higher mean. However, it is important to note that there is a decline trend in the solvency position of Takaful companies during the period. On the other hand, there is an improvement trend in the solvency postion of conventional insurers during 2006-2011. In fact, in 2011, Takaful companies have lower solvency ratio than conventional insurance. It is also noted that the standard deviation of the ratio for Takaful companies is much higher than their conventional counterparts indicating high volatility in the solvency position.

Table 1 Solvency Ratio for Takaful and Conventional Insurance Companies in Bahrain during 2006-2011

Period	2006	2007	2008	2009	2010	2011	Mean	S.D.
Takaful	19.04	15.69	4.48	3.44	2.98	2.13	7.96	7.40
Conventional	1.53	1.79	1.34	1.70	1.83	2.22	1.73	0.30

Table 2 Liquidity Ratio for Takaful and Conventional Insurance Companies in Bahrain during 2006-2011

Period	2006	2007	2008	2009	2010	2011	Mean	S.D.
Takaful	1.36	0.76	1.38	1.17	1.22	0.98	1.14	0.24
Conventional	1.48	1.77	1.97	1.94	2.54	2.79	2.08	0.49

Table 2 summarizes the liquidity ratio results for Takaful and conventional insurance companies in Bahrain during 2006-2011. Based on the above table, in general, Takaful companies in Bahrain have better liquidity position than their conventional counterparts during 2006-2011 as it is shown by the lower mean (lower means better).

In addition, the ratio was declining during the period indicating an improvement in the liquidity position of Takaful companies. On the other hand, the ratio was increasing during the period for conventional insurance companies indicating a weaker liquidity postion. In terms of stability, Takaful companies' liquidity is more stable than their conventional counterparts as it has been shown by lower standard deviation of the ratio.

Table 3 summarizes the ROE results of Takaful and conventional insurance companies in Bahrain during 2006-2011. Overall, the study reveals that the conventional insurance generated higher profitability (higher ROE) than the Takaful companies during the period as shown by higher mean. In contrast to conventional insurance, Takaful companies have experienced a dramatic drop in ROE during 2006-2007 from 9.30% to 1.00%. In 2008-2009, Takaful companies suffered from a significant decrease in ROE which indicates a huge loss (range at -8.78% to -14.37% respectively). In 2010-2011, the ratio increased and ended up at positive result of 3.01% in 2011. The overall results also show that conventional insurance is more stable in term of profitability as shown by lower standard deviation.

Table 3 ROE for Takaful and Conventional Insurance Companies in Bahrain during 2006-2011 (%)

Period	2006	2007	2008	2009	2010	2011	Mean	S.D.
Takaful	9.30	1.00	-8.78	-14.37	-8.81	3.01	-3.11	0.089
Conventional	34	41	34	34	25	22	32	0.069

Table 4 Loss Ratio for Takaful and Conventional Insurance Companies in Bahrain during 2006-2011 (%)

Period	2006	2007	2008	2009	2010	2011	Mean	S.D.
Takaful	59.61	43.71	50.17	52.51	54.13	55.19	52.55	5.35
Conventional	54.44	54.83	61.54	65.42	63.18	61.08	60.08	4.49

As it has been mentioned earlier, the combined ratio is influenced by loss, expenses and commission ratios. Table 4, 5, 6 and 7 summarize consecutively the loss, expenses, commission and combined ratios for Takaful and conventional insurance companies in Bahrain during 2006-2011.

In term of loss ratio, Takaful companies in Bahrain have lower loss ratio than their conventional counterparts during the period indicating better underwriting decision and claim handling. However, the loss ratio of conventional insurance companies is more stable than that of Takaful companies during this period as shown by its lower standard deviation.

Table 5 Expenses Ratio for Takaful and Conventional Insurance Companies in Bahrain during 2006-2011 (%)

Period	2006	2007	2008	2009	2010	2011	Mean	S.D.
Takaful	4.33	4.04	3.12	8.68	8.76	24.86	8.96	8.16
Conventional	15.26	16.79	18.34	18.19	21.08	22.04	18.62	2.56

In term of expenses ratio, Takaful companies have lower expenses ratio than their conventional counterparts during the period indicating better expenses management techniques and more effective underwriting decision than conventional insurance companies. However, it is important to note that the expenses ratio of conventional insurance is more stable than Takaful companies as shown by its lower standard deviation. In addition, it also performed better in 2011 the last year of the period.

In term of commission ratio, the overall results show that Takaful companies have higher ratio than their conventional counterpart indicating higher acquisition cost in relation to earned premium. It also means that conventional insurance companies in Bahrain are more efficient in terms of controlling the underwriting related expenses

rather than the Takaful companies. In addition, conventional insurance companies also have better stability for the ratio as shown by lower standard deviation.

Table 6 Commission Ratio for Takaful and Conventional Insurance Companies in Bahrain during 2006-2011 (%)

Period	2006	2007	2008	2009	2010	2011	Mean	S.D.
Takaful	10.73	38.42	11.49	13.89	13.67	12.12	16.72	10.7
Conventional	4.55	4.87	8.17	8.46	7.73	8.57	7.06	1.84

Table 7 Combined Ratios for Takaful and Conventional Insurance Companies in Bahrain during 2006-2011 (%)

Period	2006	2007	2008	2009	2010	2011	Mean	S.D.
Takaful	63.94	47.76	53.29	61.19	62.89	80.05	61.50	0.11
Conventional	69.70	71.62	79.88	83.61	84.26	83.12	78.70	0.06

Combining the above three ratios, it reveals in general, that Takaful companies in Bahrain have better underwriting practice during the period as shown by lower combined ratio than their conventional counterparts. However, conventional insurance companies have more stable underwriting performance than Takaful companies as shown by lower standard deviation of the ratio. Table 8 summarizes the total asset turnover ratio for Takaful and conventional insurance companies in Bahrain during 2006-2011. In general, conventional insurance companies have better total asset turnover ratio than Takaful companies during the period indicating better efficiency in assets utilization. However, Takaful companies managed to improve their total assets turnover and reached equivalent value as the conventional in the last year of the study (2011). In term of stability, Takaful companies are more stable than conventional insurance companies as shown by lower standard deviation of the ratio.

Table 8 Total Asset Turnover Ratio for Takaful and Conventional Insurance Companies in Bahrain during 2006-2011

Period	2006	2007	2008	2009	2010	2011	Mean	S.D.
Takaful	0.06	0.04	0.06	0.10	0.11	0.12	0.08	0.03
Conventional	0.23	0.16	0.16	0.15	0.14	0.12	0.16	0.04

4.2 T-test

T-test analysis is used in order to test whether there is a significant difference between financial performance of Takaful and conventional insurance companies in terms of solvency, liquidity, profitability, underwriting performance and efficiency. Table 9 summarizes the t-test results.

Table 9. T-test Results for Takaful and Conventional Insurance Companies in Bahrain during 2006- 2011

Variables	Types of Insurance	Means	Standard Deviation	T-test	ρ-Value
Solvency	Conventional	1.7350	.29885	-2.059	.094
	Takaful	7.9600	7.40067		
Liquidity	Conventional	2.0817	.49061	4.208	.002*
	Takaful	1.1450	.23797		
ROE	Conventional	31.6667	6.94742	7.522	.000*
	Takaful	-3.1083	8.94182		
	Takaful	18.8633	14.03915		
Claim Ratio	Conventional	60.0817	4.48619	2.641	.025*
	Takaful	52.5533	5.35016		
Expenses Ratio	Conventional	18.6167	2.55538	2.766	.020*
	Takaful	8.9650	8.15693		
Commission Ratio	Conventional	7.0583	1.84485	-2.179	.054
	Takaful	16.7200	10.70135		
Combined Ratio	Conventional	78.6983	6.43548	3.295	.008*
	Takaful	61.5200	11.02972		
TAT	Conventional	.1600	.03742	3.871	.003*
	Takaful	.0817	.03251		

Based on the table, it is found that Takaful companies in Bahrain have a stronger solvency position during the period from 2006-2011 than the conventional insurance companies. However, the difference is statistically insignificant as shown by the P-Value 0.94 which is above 0.05 (α = 5%). The table also reveals that Takaful companies in Bahrain have better liquidity position as compared to the conventional insurance companies during the period of 2006 to 2011 and the difference is statistically significant as indicated by the P-Value 0.002 which is less than 0.05 (α =

5%). In term of profitability, ROE of conventional insurance companies is better than Takaful companies during 2006 to 2011 and the difference is statistically significant as indicated by the P-Value 0.000 which is less than 0.05 (α = 5%).

In term of underwriting performance, Takaful companies have lower claim and expenses ratios than conventional insurance companies during 2006-2011 and the differences are statistically significant as indicated by the P-Value 0.025 and 0.020 respectively which are less than 0.05 (α = 5%). However, conventional insurance companies have lower commission ratios than Takaful companies during the period and the difference is statistically insignificant as indicated by the P-Value 0.054 which is above 0.05 (α = 5%). Overall, Takaful companies are more conservative and have better underwriting performance as indicated by lower combined ratios than their conventional counterparts and the difference is also statistically significant as indicated by the P-Value 0.008 which is less than 0.05 (α = 5%). Finally, conventional insurance companies are more efficient than Takaful companies as shown by their total asset turnover and the difference is statistically significant as indicated by the P-Value 0.003 which is less than 0.05 (α = 5%).

5. CONCLUSION AND SUGGESTIONS

Unlike most theoretical arguments which believe that Islamic finance in general (including Takaful) should perform better than conventional finance, this study found that conventional insurance companies in Bahrain performed better than Takaful companies in terms of profitability and efficiency during 2006-2011. The findings are expected to benefit insurance stakeholders in Bahrain by providing a true picture of the available financial position of Takaful and conventional insurance in the Kingdom during 2006-2011. Takaful companies' management in Bahrain can use this study as a reference to identify aspects of financial performance that need to be improved. The management of Takaful companies should improve their profitability and efficiency by improving their distribution channels to attract more participants to join the Takaful scheme and consider merger and acquisition plan in order to capitalize the economies of scale. In addition, this study also adds value to the limited number of studies that compare the financial performance between Takaful and conventional insurance companies.

REFERENCES

Ahmed, A. Global Financial Crisis: An Islamic Finance Perspective. *International Journal of Islamic and Middle Eastern Finance and Management, Vol. 3 No 4, 2010, pp. 306-320*.

Ahmed, H. Financial Crisis: Risks and Lessons for Islamic Finance. *ISRA International Journal of Islamic Finance, Vol. 1 No. 1, 2009, pp. 7-32*.

Antonio, M. S, Ali, M.M and Akbar, N: A Comparative Analysis of the Efficiency of Takaful and Conventional Insurance in Malaysia. *International Journal of Excellence in Islamic Banking and Finance, Vol.3 No.1, 2013, pp.1-13*.

CBB. *Central Bank of Bahrain Review.* Manama, Kingdom of Bahrain: CBB, 2011.

CII. *Insurance Business and Finance*. London: Chartered Insurance Institute (CII), 2010, pp. 25-30.

Fridson and Alvarez. *Financial Statment Analysis.* London: John Wiley & Sons, 2011 pp. 31-34.

Greene, W and Segal, D. Profitability and Efficiency in the US life Insurance Industry. *Journal of Productivity Analysis*, (21), *2004, pp. 229-245*.

Hidayat, S. E. Takaful: Establishing A Caring Society. *Islamic Finance News, Red Money Publication , 7* (17), *2010, pp. 20-21*.

Horngren, Sundem and Stratton. *Introduction to Management Accouting.* London: Prentice Hell International, 1996, pp. 56-58.

John J. Wild, K. R. Subramanyam, Robert F. Halsey. *Financial Statement Analysis.* McGraw-Hill, 2005, pp. 105-113.

Miniaoui, H and Chaibi, A. Technical Efficiency of Takaful Industry: A Comparative Study of Malaysia and GCC Countries. *Working Paper, 55, 2014, pp. 1-9*. IPAG Business School, Paris, France

Saad, N. An Analysis On The Efficiency Of Takaful And Insurance Companies In Malaysia: A Non-Parametric Approach. *Review of Integrative Business and Economics ResResearch, Vol. 1 No. 1, 2012, pp. 33-56*.

Saad, N.M., Shabri, A.M., Rosylin, M.Y., Jarita, D., and Abdul Rahim, A. Measuring efficiency of insurance and takaful companies in Malaysia using Data Envelopment Analysis (DEA). *Review of Islamic Economics Vol. 10, No. 2, 2006, pp. 5-26*.

Wilson, R. (2009). The Development of Islamic Finance in the GCC. *A Working Paper, Kuwait Program on Development, Governance and Globalization in The Gulf State*

[i]**END NOTES**

https://www.cbb.gov.bh/page-p-insurance.htm. It was accessed on 24/02/2014

[ii] http://economictimes.indiatimes.com/definition/combined-ratio.com, it was accessed on 7th December, 2013.