

# Technical Efficiency of the Insurance Companies: Evidences from Kingdom of Saudi Arabia



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*This paper examines the technical efficiency of the conventional insurance companies of kingdom of Saudi Arabia (KSA) by applying non-parametric approach of Data envelopment analysis (DEA) on the insurance companies from 2015 to 2018. The three variables general and administrative expenses, gross claim paid, and total assets are used as a proxy for input variables and two variables net premium income and net income are used as output variables for estimation of technical efficiency scores of KSA insurers. The result of the study reveals that the efficiency of the insurance providers in KSA is increasing with modest rate that shows this sector has a bright future. The results show that there exists scale inefficiency and also the pure technical inefficiency in KSA insurers.*

**Keywords:** Insurance Companies, Technical Efficiency, Data Envelopment Analysis, Saudi Arabia

## 1. Introduction

Kingdom of Saudi Arabia (KSA) has become a business hub in the last few decades, and the primary reason is its robust oil and gas industry. For any country banking and insurance are always considered important pillars of the economy as one provides capital to business and other provides risk coverage to business. People from all over the world come here for work and business, and it is compulsory for them to have insurance to make it a safe place for business and to meet international standards of insurance (team, 2018). Saudi Arabia is the largest country in terms of area and economy in the whole GCC region, but the state of insurance is not so bright as compared to other GCC countries like UAE and Oman. The current condition of the Saudi insurance sector is not satisfactory as compared to other Middle Eastern Nations. Most of the insurance companies in Saudi Arabia are facing a serious decline in their profit, and Saudi Arabian Monetary Authority (SAMA) highlighted that insurance sector in KSA faced a decline in profit by 28% in 2018 that shows that the companies are not performing well (Albilad, 2018; Stephan Binder, 2017). The Saudi insurance sector is facing a serious decline in contemporary time, and the most significant and the most prominent reason in this regard is the intense competition of insurance companies in the country. In the same manner, heavy operating costs are making it a hard nut to crack for the insurance sector to boom in KSA. The manpower cost is very high in KSA, and it is the major reason for the failure of the decline of this sector in KSA (team, 2018; Hachem, Wakerley, Neighbour, & Willan, 2018).

Therefore, because of the vital role of insurance sector in the economic growth of Saudi Arabia and Saudi Arabia is one of the economic leaders in GCC, measuring the technical efficiency of the insurance sector will help the insurance sector and the government of KSA. It is worth noting that there are few studies that focus on the efficiency of Saudi Arabian insurance market (Ben Jedidia & Medhioub, 2015). This present research attempts to examine the performance of the insurance companies based on their efficiency scores and to further investigate the scale inefficiencies of KSA insurers and to present an overview of the current condition of the insurance sector in Saudi Arabia. This study contributes to the empirical literature by using the latest and comprehensive data from 2015 to 2018 on 26 cooperative insurance companies of Saudi Arabia.

## 2. Methodology

The research paper has two main objectives first is to analyze the overall efficiency of the insurance companies in Saudi Arabia, and second is to know which form of insurance companies are performing better foreign or national insurance companies. The research uses the annual reports of the company for gathering the data. It uses the DEA to measure the technical efficiency of the insurance companies. Out of all the insurance companies operating in KSA, the sample includes 26 conventional insurance companies from the period of 2015 to 2018. For measuring efficiency the three input variables general and administrative expenses, gross claim paid, and total assets were considered as input variables and net premium earned, and net income was considered as output variable.

## 3. Results and Discussions

The technical efficiency of the insurance providers was measured for the period 2015 to 2018. The technical efficiency score shows that the technical efficiency of the insurance providers is improving over time in KSA. The average score related to technical efficiency, as shown in table 1, below revealed that most of the companies performing well as their score are above

0.8. Among all the companies, two companies Allied Cooperative Insurance Group and Bupa Arabia for Cooperative Insurance Co. showed the best performance as their average technical efficiency score is 1. Bupa insurance company has 48.7% foreign ownership whereas Allied corporate insurance has only 0.77% foreign investment.

**Table 1** Result of Technical Efficiency Score (CRS)

	Insurance Co.	2015	2016	2017	2018	Average
1	Al Alamiya for Cooperative Insurance Co.	0.88	1	1	1	0.97
2	Al Sagr Cooperative Insurance Co(1.47)	1	1	0.926	0.957	0.97075
3	Al-Etihad Cooperative Insurance Co.(1.8)	0.991	0.903	1	1	0.9735
4	Alinma Tokio Marine Co.(29.49)	0.463	0.343	0.903	0.772	0.62025
5	Allianz Saudi Fransi Cooperative Insurance Co.(51.94)	1	0.678	1	1	0.9195
6	Allied Cooperative Insurance Group (0.77%)	1	1	1	1	1
7	Al-Rajhi Company for Cooperative Insurance(4.66)	0.579	0.623	0.908	0.806	0.729
8	Amana Cooperative Insurance Co(4.19)	0.685	0.976	1	1	0.91525
9	Arabia Insurance Cooperative Co.(31.91)	0.621	0.857	0.945	1	0.85575
10	Arabian Shield Cooperative Insurance Co(5.32)	0.81	1	0.916	0.905	0.90775
11	AXA Cooperative Insurance Co.(23.39)	0.864	1	1	1	0.966
12	Bupa Arabia for Cooperative Insurance Co(48.57)	1	1	1	1	1
13	Buruj Cooperative Insurance Co(1.13)	0.875	1	1	0.999	0.9685
14	CHUBB Arabia Cooperative Insurance Co(32.3)	0.904	1	1	1	0.976
15	Gulf General Cooperative Insurance Co(2.02)	0.472	0.83	1	0.985	0.82175
16	Gulf Union Cooperative Insurance Co(3.88)	0.521	1	0.933	0.877	0.83275
17	Malath Cooperative Insurance Co.(12.82)	0.902	0.657	0.921	0.764	0.811
18	MetLife AIG ANB Cooperative Insurance Co.(40.21)	1	0.694	0.983	1	0.91925
19	Salama Cooperative Insurance Co.(1.54)	0.903	0.954	1	0.9	0.93925
20	Saudi Arabian Cooperative Insurance Co(1.13)	0.876	0.751	0.972	0.938	0.88425
21	Saudi Enaya Cooperative Insurance Co(16.25)	0.809	0.804	1	1	0.90325
22	Saudi Indian Company for Cooperative Insurance(11.91)	1	0.768	0.987	0.906	0.91525
23	The Company for Cooperative Insurance(9.25%)	0.739	0.802	0.816	0.717	0.7685
24	United Cooperative Assurance Co.(1.57)	0.742	0.98	0.957	0.45	0.78225
25	Walaa Cooperative Insurance Co.(10.24)	0.902	1	0.95	1	0.963
26	Wataniya Insurance Co(10.5)	0.535	0.746	0.874	0.842	0.74925
	Yearly Average	0.8105	0.860231	0.961192	0.916077	
	Standard Deviation	0.179815	0.167408	0.049123	0.129408	
	Minimum	0.463	0.343	0.816	0.45	0.62025

The above table shows that average yearly performance of the insurance providers operating in KSA is improving as in 2015 the average yearly technical score is 0.8105, that rises in 2016 to 0.86, and it further rise in 2017 and reaches to an average efficiency score of 0.9612, but in 2018 there is a slight decline, and efficiency score became 0.916077. The standard deviation results also showing the improving trend as the dispersion is coming down which means the overall sector is improving, not only a few companies. Companies having less than 80% efficiency scores are United Cooperative Assurance Company, The Company for Cooperative Insurance, Wataniya Insurance Company, Al-Rajhi Company for Cooperative Insurance, and Alinma Tokio Marine Company. From 2015 to 2018 the top five KSA insurers in terms of average efficiency scores are Allied Cooperative Insurance Group, Bupa Arabia for Cooperative Insurance company, CHUBB Arabia Cooperative Insurance company, Al-Etihad Cooperative Insurance Company, and Al Sagr Cooperative Insurance company. Further the total efficiency was broken into pure technical and scale efficiency. Decreasing returns to scale is the reason of scale inefficiency for few of the Saudi insurers which implies that a company is too large to take full advantage of scale. Akhtar (2018) mentioned that scale inefficiency is the reducing returns-to-scale, which implies that insurance has an inefficient large size. The insurers having scale inefficiency were Al-Rajhi Company for Cooperative Insurance, Buruj Cooperative Insurance Company, The Company for Cooperative Insurance, Gulf General Cooperative Insurance Company, and Gulf Union Cooperative Insurance Company.

#### 4. Conclusions

This research examines the efficiency of the insurance companies which operate a business in KSA through using the DEA and measurement of the technical efficiency score of the insurance providers. The results of the study reveal that the efficiency of the insurance companies in KSA is improving over the years. Allied Cooperative Insurance Group and Bupa Arabia for Cooperative Insurance company are efficient throughout the period. The companies with the lowest efficiency are Wataniya Insurance Company, Al-Rajhi Company for Cooperative Insurance, and Alinma Tokio Marine Company. Government and policymakers like Saudi Arabian Monetary authority should focus on the companies with the lowest efficiency scores. Policymakers should further dig into the reason for inefficiencies and come up with solutions. Splitting the technical efficiency in scale efficiency and pure technical efficiency will give understandings about the problems.

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