

Is Private Health Insurance in Kingdom of Saudi Arabia on The Right Track? A GCC Comparative Analysis

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Abstract: This paper explores the role of private health insurance (PHI) in Gulf Cooperation Council states (GCC). It is assumed that the GCC states share similar characteristics and policy challenges for the effective integration of private insurance into national health care systems where there is a projected strong growth of PHI that needs to be accompanied by efficient regulation. Overall, this paper shows that the role of private insurance varies depending on the economic, social, and institutional settings in a country. Private health insurance schemes can be valuable tools to complement existing health-financing options only if they are carefully managed and adapted to local needs and preferences.

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1. Introduction

Private health insurance is playing an increasing role in both high and low income countries. Owing to Drechsler and Jütting (2007), sustainable tools for health financing are urgently needed to lower the high amount of out-of-pocket payments and the incidence of catastrophic health shocks in the developing world (WHO, 2006). However, many factors such as; (a) difficulties with traditional ways of health care financing; (b) diversified consumer demand in the course of economic development, and (c) intensified trade in the health-services sector, which has introduced foreign insurance providers to many countries have lately stimulated the development of PI mechanisms as means to finance health care in low- and middle-income countries.

Nevertheless governmental efforts in enhancing health care systems, a considerable share of people still rely on direct payments to finance their health care needs. Drechsler and Jütting (2007) cited that, in some regions, the out-of-pocket payments could account for up to 80 percent of total health expenditure. Private prepaid programs, such as community-based health insurance schemes, are often the only possible way for poor people to participate in risk-pooling programs. Evidence so far suggests that private schemes can improve access to health care and offer financial protection even to marginalized groups (Jütting, 2005). Despite the growing importance of private health insurance (PHI), however, surprisingly little is known about its role in national health systems in the developing world (Sekhri and Savedoff, 2005).

On the other hand, many critiques have been assigned to private insurance by many researchers such as; (1) PHI diverts scarce resources away from

the poor; (2) it escalates health costs, and allows adverse selection. Drechsler and Jütting (2007) argue that, private health insurance largely neglects the social aspect of health protection. In contrast, proponents of PHI argue that private insurance can bridge financing gaps by offering consumers value for money and helping them avoid waiting lines, low-quality care, and under-the-table payments, problems that often observed when households can use public free health facilities or participate in mandatory social insurance schemes (Zweifel, 2005).

Previous studies, have either focused on specific types of PHI (e.g., community-based programs: Preker and Carrin 2004; Ekman 2004; micro insurance: Dror and Jacquier 1999) or restricted the analysis to countries where the insurance industry is already well established (e.g., Latin America: Iriart, Merhy, and Waitzkin 2001; Barrientos and Lloyd Sherlock 2003; Southeast Asia: WHO 2004). However, the scope of this paper goes beyond such studies and portrays the private health insurance sector in GCC states.

The paper is structured as follows. The next section briefly discusses the aim of the paper. Data collection is the subject of part three. The fourth section is devoted to give a general view on private health insurance (PHI) and insurance sector in GCC States. Methodology is the main topic for section five. The sixth section discusses the estimated results. The seventh and last section is devoted to conclusion.

2. Aim of the Study

The aim of this paper is twofold. First, it attempts to portrait a picture for private health insurance in GCC states throughout the available set of data. Second, explore the factors affecting PHI

among GCC states that might be important for policy advisors.

3.Data

Data covering the period of study was mainly obtained from World Health Organization (WHO), World Bank and Lloyds published data.

4.A General Overview

4.1 What is Private Health Insurance?

The paper adopts the taxonomy of the organization of Economic Co-operation and Development (OECD) cited in Sekhri and Savedoff (2005). The OECD distinguishes public from private insurance based on the sources of funds. Ultimately, all money comes from household or employer income, but in public insurance programmes this money is channeled through the state via a general or

social insurance tax, whereas in private the money is paid directly to the risk-pooling entity (see Figure 1)

Sekhri and Savedoff (2005) argued that private health insurance is often characterized as voluntary, for profit commercial coverage in contrast to mandatory, publicly financed and publicly managed insurance. However, a review of insurance arrangements around the world shows that wide varieties of forms exist under the umbrella of private insurance and that the boundaries between public insurance and private insurance are becoming increasingly blurred. The term public insurance is employed to encompass the full range schemes that are variously described as social insurance or national insurance.

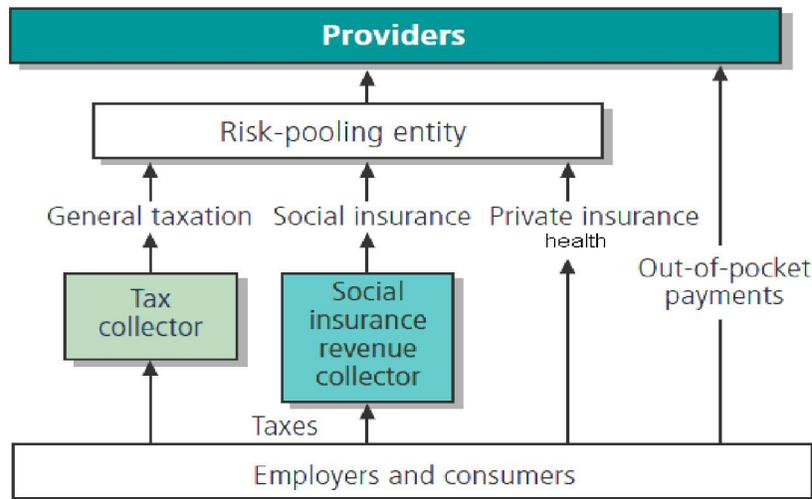


Figure (1): Systems of Health Care Financing Mechanisms

Source: Adopted from Neelam Sekhri and William Savedoff (2005).

Insurance Environment in GCC States: An Overview (This section relies heavily on what cited in Lloyds publications in 2013)



Figure (2): Gulf Cooperation Council States (GCC) Map

Source: http://en.wikipedia.org/wiki/Cooperation_Council_for_the_Arab_States_of_the_Gulf

4.2 Insurance Environment in Saudi Arabia

Lloyds (2013 A) cited that insurance in Saudi Arabia was regarded as “haram” (prohibited by faith) until the early 1990s and only in 2003 was comprehensive set of regulations developed under the auspices of the Saudi Arabian Monetary Authority (SAMA). A belated three-year transitional period for implementing the new regulations ended in April 2008. The main classes of business are health (including foreign workers’ compulsory medical cover) composing about 56% of total gross premiums followed by motor (21%), property and liability accounts for 8% and 3% respectively (see Figure 3).

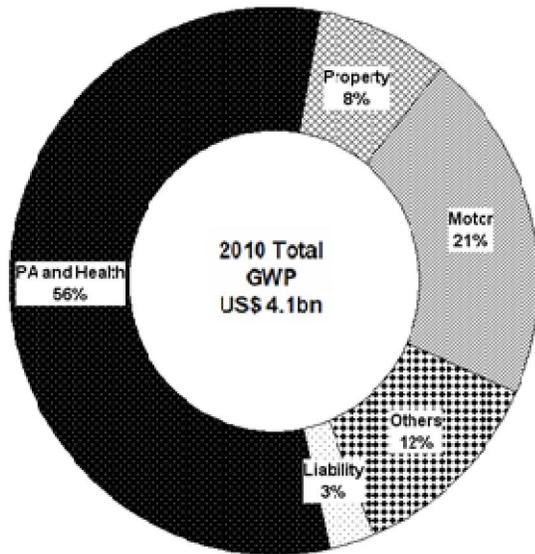


Figure (3): 2010 Direct Gross Premiums

Besides adhering to the licensing guidelines, insurance companies in Saudi Arabia have to follow a stringent set of rules. All the companies are required to list on the Saudi Stock Exchange and adhere to the Islamic law. SAMA has stipulated all insurance operators in the kingdom to follow a cooperative business model, thus setting it apart from other regional insurance markets. In December 2012, there were a total 33 insurance and reinsurance companies operating in Saudi Arabia, and another two companies were approved to be established. In recent years, Saudi insurers have made increasing use of available facultative reinsurance capacity within the Gulf Cooperation Council (GCC) states, especially in Bahrain and the UAE (Lloyds 2013).

The insurance market in Saudi Arabia, having traversed a period of consolidation as a result of the introduction of comprehensive supervisory control is now well placed to grow in line with the oil-rich economy. It is anticipated that competition in the market is likely to remain intense the foreseeable future, although the non-life classes of property,

construction and marine, aviation and transit (MAT) business are likely to continue to depend crucially on reinsurance market capacity and pricing. It is thought that the number of new insurance and/or reinsurance companies to be licensed in the market in the next few years is likely to be modest. While there is an increasing awareness about risk management among companies, the Saudi insurance market is relatively new in the country, so the standard of risk management techniques varies significantly (Lloyds 2013).

Owing to Capital Standards (2009), the Saudi Arabian insurance industry has emerged as one of the fastest growing insurance industries across the world. The industry grew remarkably in terms of GPW in 2008 and 2009 by 27.22% and 33.80%, respectively, while the global economic crisis had severely affected the other sectors of the country. The industry benefited from the introduction of compulsory lines of business such as health insurance. In 2006, the health insurance schemes were introduced for expatriates residing in Saudi Arabia, consequently the health insurance segment significantly grew in 2008 by 56.77% in terms of GPW. Health insurance segment contributed 52.46%, in 2011, to the total GPW of the Saudi Arabian insurance industry. In addition to the health insurance, other compulsory lines included motor third-party liability insurance, professional indemnity for certain professions and workers’ compensation insurance. Health and motor insurance are core products of the Saudi Arabian insurance sector.

Saudi Arabian insurance industry’s total GPW grew at an average of 21.53% over the past 4 years as of 2011. The insurance indicators reflect that the Saudi Arabian insurance market has growth potential, considering Saudi Arabia’s high population and economic growth in the recent past. The insurance penetration of the Saudi Arabian insurance industry has increased from 0.59% in 2007 to 0.86% in 2011. Despite the growth in Saudi Arabia’s insurance penetration, CSR considers the industry’s insurance penetration to be low compared to world insurance penetration, which was 6.60% in 2011 as per the Swiss Re. Saudi Arabia’s insurance penetration is also lower than UAE and Bahrain, which had insurance penetration of 1.8% and 2.4% as of 2011, respectively. CSR believes that the Saudi Arabia’s sound economic outlook coupled with extensive oil reserves and supportive policies will lead to insurance premium growth in the long run.

Average insurance density of the world is USD 661, Saudi Arabia’s density is lower at USD 177 (Insurance Density = SR 656.89 according to SAMA). It is also the lowest among other GCC countries. The low insurance density is mainly

pertaining to the relatively high population of the country in the GCC region.

4.3 Insurance Environment in Bahrain

Lloyds (2013 B) noted that, Bahrain is no longer the centre of insurance for Saudi business due to tightening of regulations and the establishment of licensed insurers in Saudi Arabia. Unlike most other financial sectors in the region, Bahrain's financial sector is dominated by nationals, without any rules for requiring a minimum proportion of locals to work in a particular company being imposed, which makes Bahrain a competitive place to do business for foreign insurers.

According to the regulator, the Central Bank of Bahrain (CBB), the country's Takaful market grew 73% year on year from US\$ 42m to US\$ 72m during 2008. Latest estimates for the insurance market point towards a total of US\$ 150m for both Motor and Long Term Insurance followed by a sizeable US\$ 115m for a combined Property & Liability segment during 2009. Bahrain's authorities particularly stress the local work force shows the higher levels of labour productivity in the Gulf.

There are an estimated 163 insurers operating in Bahrain including Allianz, Chartis, Takaful and Hannover Re, which have opted to make Bahrain their regional base. The Central Bank of Bahrain has also been active in marketing Bahrain as a captive domicile more recently.

In 2002, the Central Bank of Bahrain (CBB) became the single regulator for the insurance market. There is a now an Insurance Rulebook, which is among the most developed regulatory frameworks in the region. Following the lifting of ownership restrictions, Bahrain has been able to attract a growing number of brokers. Today, Aon, Marsh and Willis have a presence in Bahrain amongst other brokers.

Demand for fire, property & liability and medical insurance lines has expanded at a swift pace over the recent years, and their contribution to the overall premium reflects this trend. Contribution of the fire, property & liability segment increased from 14.0% in 2007 to 18.0% in 2011, while that of the medical segment expanded from 10.5% to 16.2% during the same period. A major factor attributable to the meteoric rise in medical insurance demand in the country is the government's plans to make it compulsory for employers to cover their employees under a health insurance plan. If political uncertainty is contained, this trend is likely to continue (Lloyds 2013 B).

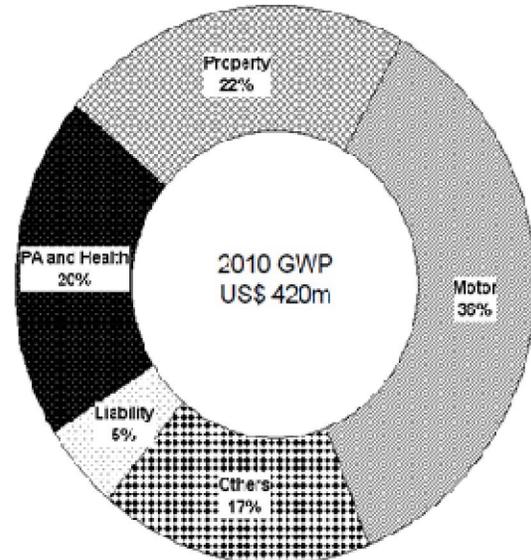


Figure (4): 2010 Direct Gross Premiums

4.4 Insurance Environment in United Arab Emirates

As noted by Lloyds (2013 C), in 2009 the size of the non-motor market was US\$ 4.5bn. The market is notable for its size compared to other countries in the region. The UAE insurance market is split between onshore (domestic) and offshore (wholesale business non-domestic), with the former governed by the Ministry of Economy (MOE) and the latter based in the Dubai International Financial Centre (DIFC) with its own set of regulations via the DFSA.

Over the past few years, there has been a noticeable effort to move to more open and competitive markets. This has resulted in national insurance companies in the capital no longer having a monopoly over government businesses. As such, insurers outside Abu Dhabi have been able to make significant inroads into the market in the city. It is also worth noting that the Dubai International Financial Centre (DIFC) has become an important hub and free-zone for foreign insurers to access the region.

The insurance sector in the UAE is largely dominated by publicly listed companies, many of which have a majority government-holding. Regulations require the UAE insurance companies to be registered as public joint stock companies and get listed on the Dubai Financial Market or Abu Dhabi Securities Exchange. Government-owned unlisted entities, private companies, and branches of foreign firms make up rest of the market participants. There were a total of 63 insurance companies operating in the country in 2012, comprising 61 primary insurers and 2 reinsurers. Oman Insurance Co., Abu Dhabi National Insurance Co., and Orient Insurance Co. are

among the leading insurance companies in the UAE. The UAE Insurance Authority has imposed a number of stipulations to restrict the entry of foreign players into the insurance market. These include allowing only those companies to set up branches that had, in the past, obtained a license for operating in the UAE.

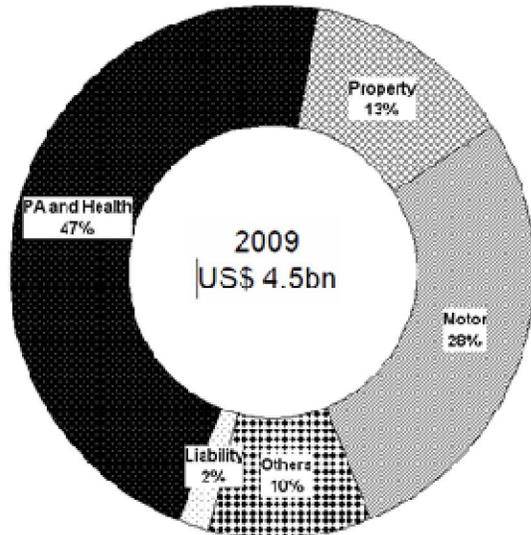


Figure (5): 2009 Direct Gross Premiums

4.5 Insurance Environment in Oman

Relying on Lloyds (2013 D), the insurance industry in Oman has been growing steadily over the past decades, from just a few national companies in the early 1980s to a very competitive market with 23 foreign and locally incorporated companies today. In terms of insurance penetration, we are still talking about a developing market. But the insurance penetration is still very low and the market is barely reaching 1% of GDP. Prior to 2007, Oman was quite a profitable market for insurers. There were fewer players and the industry delivered consistent profits year on year between 2002 and 2007. Since then, the market has seen two changes – one is the regular catastrophe events. Despite those events, market prices actually went down, which was driven by an increase in competition.

In addition, the number of brokers has grown from 15-16 to 23, and the number of insurers has grown by one to two per annum Lloyds (2013).

At the end of 2011 there were 11 domestic players and 11 foreign players competing for a small total market premium, hence many feel Oman is highly saturated. Nevertheless, there is the potential and scope for future growth. The CMA has sought to manage that growth and seek to play a judicious hand in helping the industry to grow. But the current position is certainly challenging for many insurers, both domestic and foreign Lloyds (2013).

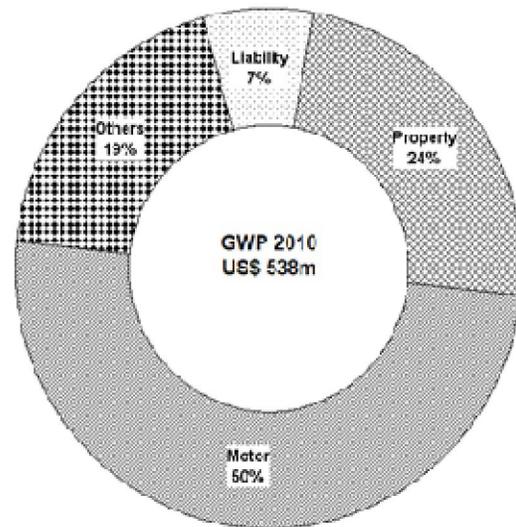


Figure (6): 2009 Direct Gross Premiums

4.6 Insurance Environment in Qatar

Relying on Lloyds (2013 E), the size of the non-life insurance market is estimated to be around US\$ 933m in 2010: The development of the personal lines sector has stalled, although this is expected to change with an increasing level of focus placed on Takaful and the introduction of compulsory health insurance for expatriates (who make up 80% of the population).

The government's push to diversify out of oil & gas has led to the development of the Qatar Financial Centre (QFC), which has attracted a steady stream of global insurance players including Allianz, Axa, Chartis and Mitsui amongst others. The QFC operates under contract law. A single regulatory body for all financial services in the country is expected to follow.

Until the recent emergence of the Qatar Financial Centre (QFC), insurance brokers were not permitted to operate in Qatar. Where energy risks were concerned, the international companies worked closely with the national insurers, acting as consultants and placing the necessary reinsurance. The arrival of international brokers, however, is likely to affect the manner in which major industrial and commercial insurances are marketed and handled in Qatar.

Qatar's economic growth is set to be very substantial in the next few years, as the government plans to become the world's number one producer and exporter of natural gas. In According to the QFC, Qatar has allocated US\$ 70bn to infrastructure projects between 2005 and 2011. This is likely to bring about healthy growth in non-life insurance premium income even if premium rates come under pressure. Energy, marine, and construction are the

major lines of insurance in Qatar given its robust hydrocarbons sector, and are likely to remain prominent in the near future. Third-party motor insurance is compulsory, and the segment accounts for a large portion of the personal non-life insurance market. It is the most competitive business line, generating low margins for the service providers. Currently, health insurance does not constitute a large slice of the industry as it does in some of the other GCC markets. Government benefits through provision of free and subsidized healthcare for nationals and expatriates respectively has curtailed growth of this segment. Other personal lines of insurance like property and life have also experienced a slow progress due to high social spending and influence of cultural beliefs. Nevertheless, with the Supreme Council of Health expected to implement a compulsory medical insurance program for all nationals, expatriates, and visitors in Qatar starting 2014, the health insurance segment is likely to see a higher industry representation in the future (Lloyds 2013).

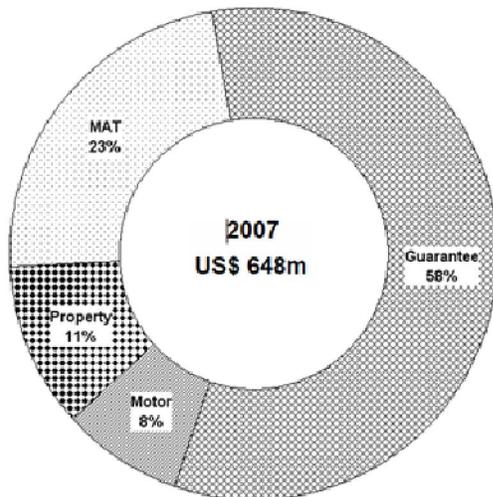


Figure (7): 2007 Direct Gross Premiums

4.7 Insurance Environment in Kuwait

Owing to Capital Standards (2009), insurance is a very stable industry in Kuwait. The reason behind this can be attributed to the religious or cultural barriers that deter the companies from performing like their investment and real estate counterparties.

The Kuwait Insurance industry is lagging behind as compared to its GCC neighbors like UAE and Saudi Arabia, and is fragmented with a small number of players. These players either operate as a conventional insurance players or Takaful insurance companies. Gulf Insurance Company, Kuwait Insurance Company and Al-Ahlia Insurance

Company are some of the prominent players in the conventional insurance industry. Among the Takaful Insurance players, companies like First Takaful Insurance Company and Wethaq Takaful Insurance Company are listed on KSE. Also, foreign players such as New India Insurance Company, Oriental Insurance Company, and American Insurance Company are present in the Kuwait Insurance Industry.

The reason behind the insurance sector's slow growth in Kuwait can be attributed to:

- The relative unfamiliarity of the public to the concepts and details of insurance industry in general,
- The religious views against insurance
- The lack of law enforcement to require the public to purchase health and life insurance.

The industry is dominated by the conventional insurance companies with a market share of 85%, while the Takaful insurance companies have a market share of only 7%. However, the rising demand for Sharia-compliant products and the overall growth in Islamic services, will likely contribute to the growth of Takaful market in the near future Capital Standards (2009).

5. Methodology and Results

5.1 Methodology

The paper assumes that total expenditure on health in GCC states Y_t may be described by a simple exponential trend model $Y_t = \alpha e^{\beta_1 T} e^{u_t}$ where the average rate of growth is given by β , T is a time trend and u_t is a random variable of zero mean and constant variance. Applying logs will yield $\ln y_t = \ln \alpha + \beta_1 T + u_t$ (where, $\ln \alpha = \beta_0$) simply, $\ln y_t = \beta_0 + \beta_1 T + u_t$. Consequently we can recover the underlying growth rate by regressing the log of the variable on the time trend (T).

Table 1 shows the modelling of the regression analyses. The results exhibit the regression of per capita total health expenditure on time. The model is significant for all countries (f-test) except Qatar. The highest R^2 in KSA while the lowest in Qatar. The growth rate or time trend (β) is negative for three countries (Qatar, UAE, and Bahrain) while positive in three countries (Kuwait, KSA and Oman) beside insignificant in one country Qatar (see Figure 6). The constant term is positive and significant in all countries with highest value in Qatar and lowest one in KSA.

Table (1): Estimated Coefficients for per capita Total Expenditure on Health during the period (2000-2009)

<i>Coefficients</i>		<i>SE</i>	<i>T ratio</i>	<i>P value</i>	<i>F (Calculated)</i>	
Qatar	α	1.459	0.236	6.179	**	0.175 -----
	β	-0.010	0.024	-0.418	----	
	R^2	0.29				
UAE	α	0.306	0.009	33.67	**	37.50 **
	β	-0.006	0.001	-6.124	**	
	R^2	0.73				
Kuwait	α	0.316	0.033	9.512	**	8.389 *
	β	0.010	0.003	2.896	*	
	R^2	0.38				
KSA	α	0.011	0.001	15.89	**	134.834 **
	β	0.001	0.0001	11.61	**	
	R^2	0.91				
Bahrain	α	0.943	0.060	15.77	**	6.658 *
	β	-0.016	0.006	-2.58	*	
	R^2	0.32				
Oman	α	0.075	0.006	11.650	**	126.731 **
	β	0.008	0.001	11.257	**	
	R^2	0.90				

Source: Author calculation.

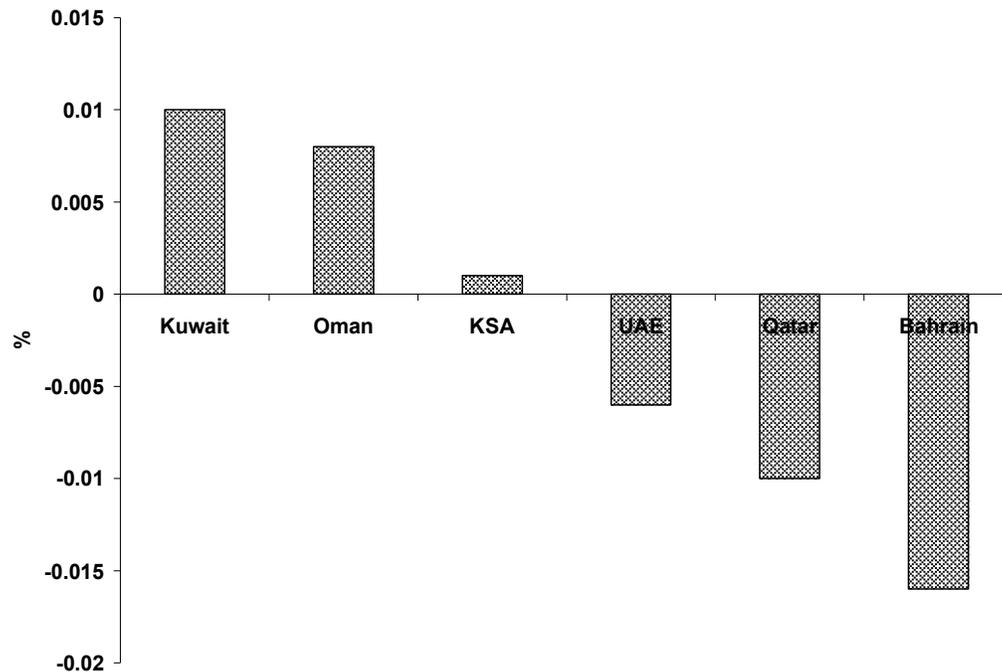
**Figure 6: Annual Growth rate for Per Capita Total Expenditure on Health during the period (2000-2009)**

Table 2 shows the regression results of per capita private health expenditure on time. The model is significant for all countries (f-test) except UAE and Oman. The highest R^2 in Qatar while the lowest in Oman. The growth rate or time trend (β) is negative

for all countries except for Oman beside insignificant in three countries UAE, KSA, and Oman (see Figure 6). The constant term is positive and significant in all countries with highest value in Qatar and lowest one in Oman.

Table (2): Estimated Coefficients for per Capita Private health Expenditure for the period (2000-2009)

<i>Coefficients</i>		<i>SE</i>	<i>T ratio</i>	<i>P value</i>	<i>F (Calculated)</i>	
Qatar	α	0.496	0.032	15.26	**	30.629 **
	β	-0.019	0.003	-5.534	**	
	R^2	0.69				
UAE	α	0.278	0.046	6.07	**	1.526
	β	0.006	0.005	10235	---	
	R^2	0.10				
Kuwait	α	0.237	0.012	20.02	**	*
	β	-0.005	0.001	-4.233	**	
	R^2	0.56				
KSA	α	0.157	0.011	13.918	**	0.008 **
	β	-0.0001	0.0001	-0.091	---	
	R^2	0.001				
Bahrain	α	0.244	0.016	15.513	**	6.658 *
	β	-0.005	0.002	-3.025	**	
	R^2	0.40				
Oman	α	0.062	0.004	16.875	**	2.724 **
	β	0.001	0.0001	10650	----	
	R^2	0.16				

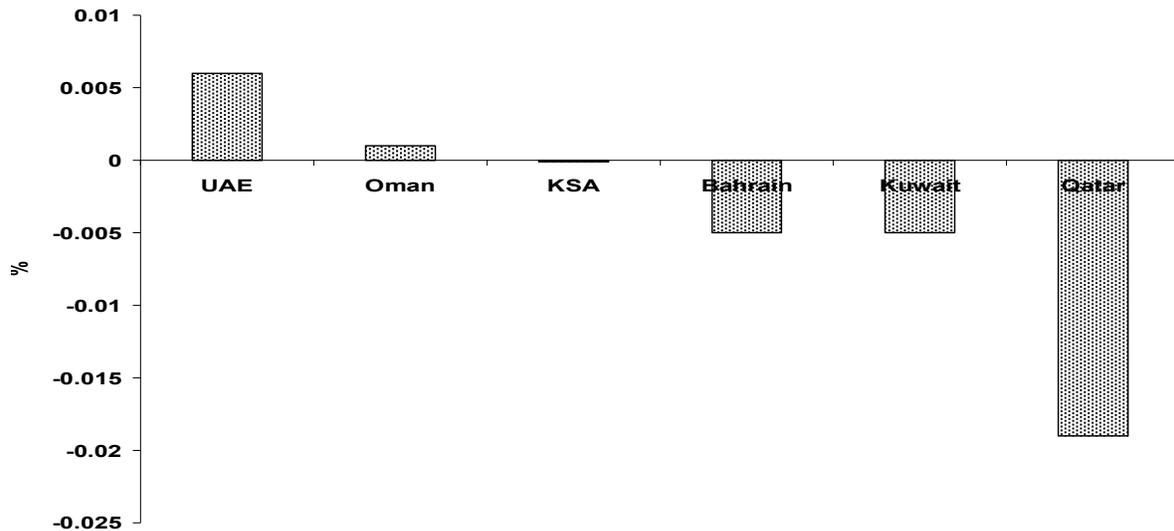
**Figure 6: Annual Growth rate for per capita Private Health Expenditure for the period (2000-2009)**

Table 3 represents the regression results of general government health expenditure on time. The model is significant (f-test) for Bahrain, Oman and UAE, while insignificant for Kuwait Qatar and KSA. The highest R^2 in Oman and the lowest in Kuwait. The growth rate or time trend (β) is positive for three

countries Qatar, UAE, and KSA and negative for three countries Bahrain, Kuwait and Oman. In addition to insignificant time trend in Kuwait, Qatar and KSA. The constant term (α) is positive and significant for all countries with highest value in Bahrain and lowest one in Qatar.

Table (3): Estimated Coefficients for per capita General Governmental Health Expenditure % for the period (2000-2009)

<i>Coefficients</i>		<i>SE</i>	<i>T ratio</i>	<i>P value</i>	<i>F (Calculated)</i>	
Qatar	α	5.725	1.055	5.428	**	0.816
	β	0.099	0.109	0.109	--	
	R^2	0.05				
UAE	α	7.625	0.236	32.335	**	15.364 **
	β	0.096	0.024	3.920	**	
	R^2	0.52				
Kuwait	α	7.275	0.611	110909	**	0.555 ---
	β	-0.047	0.063	-0.745	---	
	R^2	0.04				
KSA	α	6.575	0.846	7.772	**	1.345 **
	β	0.101	0.087	1.160	---	
	R^2	0.09				
Bahrain	α	11.075	0.439	25.25	**	4.577 *
	β	-0.097	0.045	-2.14	*	
	R^2	0.25				
Oman	α	7.875	0.318	24.713	**	28.718 **
	β	-0.176	0.033	-5.359	**	
	R^2	0.67				

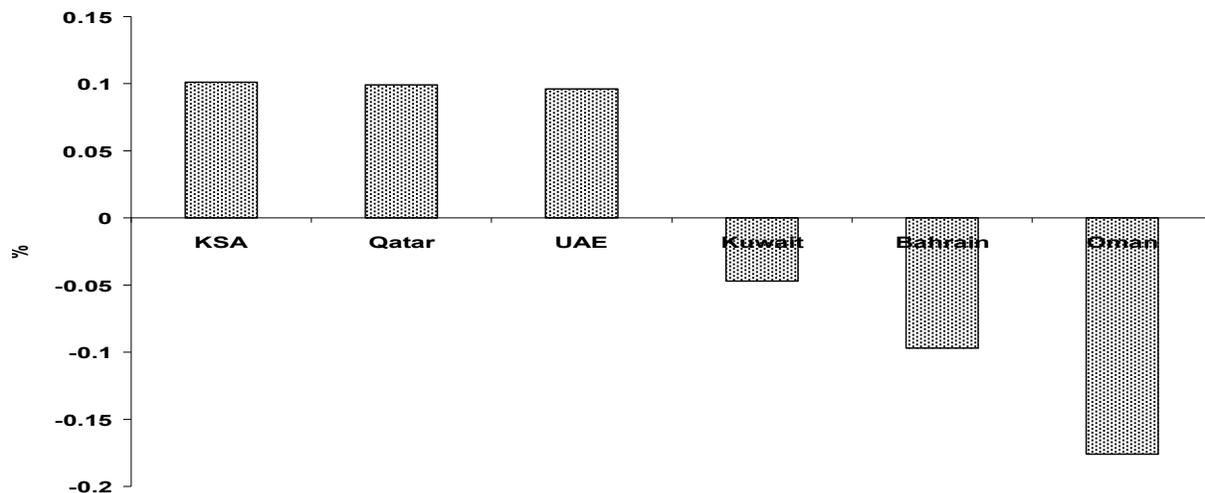
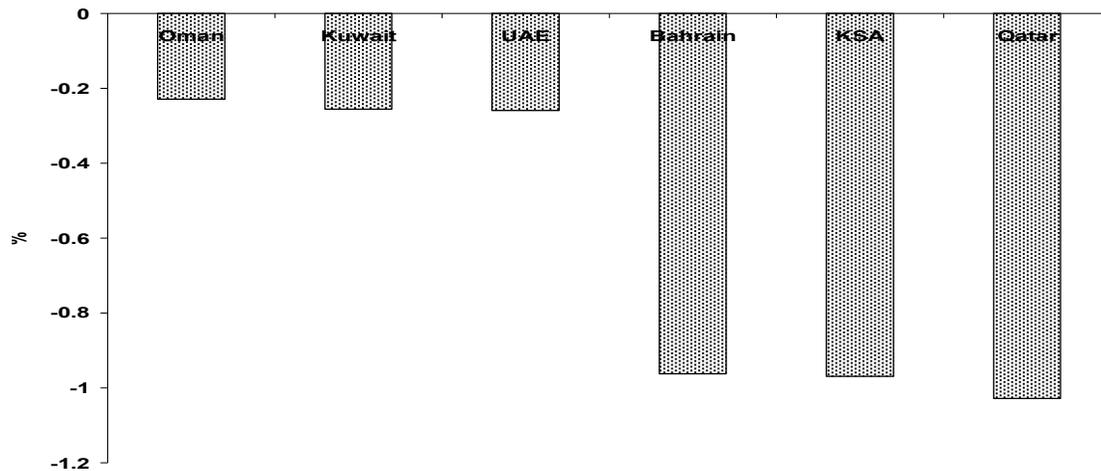
**Figure 8: Annual Growth rate for per capita General Governmental Health Expenditure % for the period (2000-2009)**

Table 4 exhibits the regression results of out of pocket as percentage of private health expenditure on time. The model is significant for all countries (f-test) except Qatar and UAE. The highest R^2 in KSA and the lowest one in UAE. The growth rate or time trend

(β) is negative for all countries beside insignificant in two countries Qatar and UAE. The constant term is positive and significant in all countries with highest value in Qatar and lowest one in UAE (see Figure 10).

Table (4): Estimated Coefficients for percapita out of pocket % private health Expenditure for the period (2000-2009)

<i>Coefficients</i>		<i>SE</i>	<i>T ratio</i>	<i>P value</i>	<i>F (Calculated)</i>	
Qatar	α	99.925	5.878	16.99	**	2.859 -----
	β	-1.028	0.608	-1.691	---	
	R^2	0.17				
UAE	α	72.70	2.047	35.52	**	1.495 -----
	β	-0.259	0.212	-1.22	**	
	R^2	0.10				
Kuwait	α	94.30	0.328	287.21	**	56.788 **
	β	-0.256	0.034	-7.536	**	
	R^2					
KSA	α	73.3	0.709	103.340	**	174.540 **
	β	-0.969	0.073	-13.211	**	
	R^2	0.93				
Bahrain	α	75.050	1.368	54.87	**	46.224 **
	β	-0.962	0.141	-6.799	**	
	R^2	0.77				
Oman	α	63.950	0.596	107.23	**	13.836 **
	β	-0.229	0.062	-3.72	**	
	R^2	0.50				

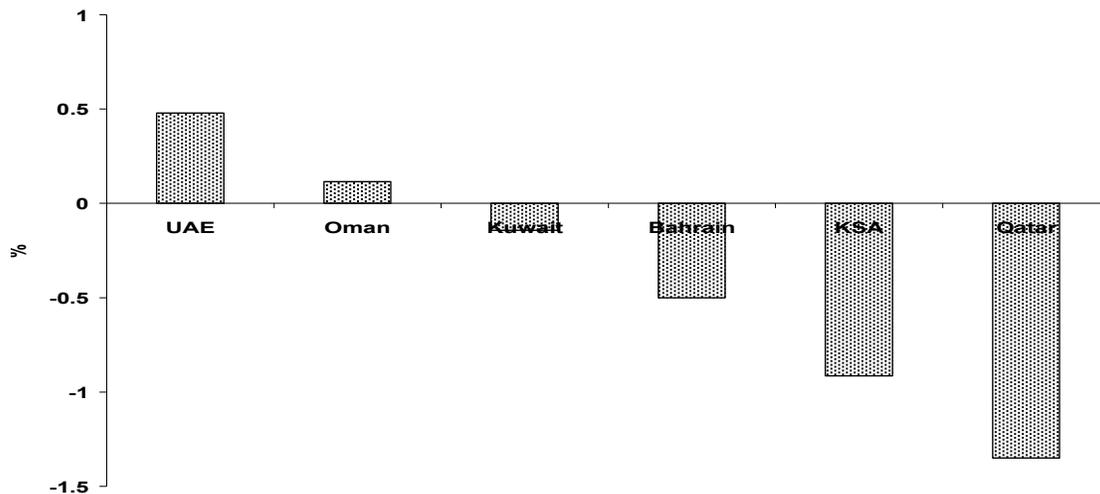
**Figure 10: Annual Growth rate for per capita Out of Pocket % Private Health Expenditure for the period (2000-2009)**

As far as out of pocket as percentage of total health expenditure regression results is concern, from table 5 the model is significant for all countries (f-test) except to Kuwait and UAE. The highest R^2 in Qatar while the lowest in UAE. Growth rate or time trend (β) is negative in four countries; Bahrain,

Kuwait, Qatar and KSA . While positive in two countries Oman and UAE. Furthermore it is significant in all countries except Kuwait and UAE. The constant term (α) is positive and significant for all countries with the highest value in Qatar and lowest one in Oman.

Table (5): Estimated Coefficients for percapita out of pocket % total health Expenditure for the period (2000-2009)

Coefficients		SE	T ratio	P value	F (Calculated)	
Qatar	α	32.975	1.588	20.765	**	67.589 **
	β	-1.350	0.164	-8.221	**	
	R^2	0.83				
UAE	α	17.050	3.550	4.803	**	1.705 ----
	β	0.479	0.367	1.306	----	
	R^2	0.11				
Kuwait	α	19.150	0.864	22.160	**	2.548 ----
	β	-0.143	0.089	-1.596	---	
	R^2	0.15				
KSA	α	29.650	2.265	13.088	**	15.243 **
	β	-0.915	0.234	-3.904	**	
	R^2	0.52				
Bahrain	α	24.625	0.998	24.66	**	23.448 **
	β	-0.50	0.103	-4.84	**	
	R^2	0.63				
Oman	α	10.40	0.471	22.098	**	5.55 *
	β	0.115	0.049	2.357	*	
	R^2	0.28				

**Figure 13: Annual Growth rate for per capita per capita Out of Pocket % Total Health Expenditure for the period (2000-2009)**

6-2 Results

For analyzing the data we use statistical technique particularly multiple regression analysis. Here we divide the model to dependent variable and set of independent variables. The estimation of the equation will be done through ordinary least squares (OLS). The parameters of estimate have the following properties:-

1. Unbiasness
2. Linearity

3. Minimum variance

4. Consistency

The following equation specify the model:-

$$\ln Y = \ln(\alpha) + \beta_1 \ln(X_1) + \beta_2 \ln(X_2) + \beta_3 \ln(X_3) + \beta_4 \ln(X_4) + \beta_5 \ln(X_5) + \beta_6 \ln(X_6) + \mu$$

Where:-

1. Y stands for dependent variable which is Private expenditure on health
2. X_1 stands for the first independent variable which is Per capita GDP

3. X_2 stands for the second independent variable which is Total expenditure on health as percentage of GDP
4. X_3 stands for the third independent variable which is General government health expenditure as percentage of government expenditure
5. X_4 stands for the fourth independent variable which is Out of pocket expenditure as percentage of total health expenditure.
6. X_5 stands for the fifth independent variable which is Out of pocket expenditure as percentage of private total health expenditure.
7. X_6 stands for sixth independent variable which is Total expenditure on health as percentage of population.
8. μ stands for the error term which introduce to count for the independent variables not included in the model. This term is normally distributed with zero mean and one variance.

To avoid the econometric problems we transformed the data to the natural logarithms. The results of the above model are presented in Table 6, in which a number of outcomes could be considered as follows:-

Table 6: The Impact of Model Variables on Private Expenditure on Health

GCC States	Bahrain	Kuwait	Oman	Qatar	UAE	KSA
Constant	.067 (.076)	28.188 (.214)	-24.558 (.183)	.819 (.582)	6.066 (.297)	-13.588 (.050)
Per capita GDP	-.415 (.481)	-.620 (.457)	.974 (.008)	.215 (.410)	-.382 (.162)	-1.735 (.043)
GGHE %Gov. exp	.342 (.372)	.036 (.904)	.051 (.727)	.214 (.344)	.066 (.872)	0.492 (.112)
Out of pocket Exp %PVTHE	-.296 (.762)	-4.548 (.311)	4.587 (.000)	-1.963 (.000)	-1.795 (.239)	1.194 (.223)
Tot. Exp. on health% Pop	.937 (.112)	.406 (.416)	-.002 (.986)	1.061 (.001)	1.179 (.033)	0.064 (.717)
Out of pocket Exp %THE	1.065 (.05)	.379 (.498)	.150 (.348)	1.473 (.00)	1.101 (.000)	1.533 (.001)
Tot . exp. on health % GDP	-.893 (.112)	.054 (.892)	--	-.247 (.066)	--	.962 (.007)
R^2	.95	.349	.925	.974	.944	.881
F	26.209 (.00)	.803 (.592)	24.672 (.000)	55.69 (.000)	33.460 (.000)	11.11 (.001)
Durbin Watson	1.997	1.99	2.140	2.02	1.963	2.03

Source: author's calculations

1. As far as the significance of over model (f – test), all countries have significant model or the explanatory variables explain and affect the dependent variable as referred by the value of (f) except the Kuwait. The highest value in Qatar and the lowest in Kuwait.
2. Secondly the coefficient of determination (R^2) which shows the percentage that the explanatory variables responsible from the change in the dependent variable. This percentage is more than 85% for all countries except Kuwait, with the highest one in Qatar and lowest in Kuwait.
3. Thirdly as far as Durbin Watson test the values of all countries are around two which indicate none existence of autocorrelation problem in the model except for UAE.
4. Fourthly, the constant term which refers to the automatic change in the dependent variable or changes according to general factors. This term is positive for four countries (Bahrain, Kuwait, Qatar and UAE), while the term is negative for two countries (Oman, and KSA)
5. As far as coefficient of per capita GDP which reflects the sign and magnitude of its relationship with the dependent variable, three countries have inverse and elastic relationship with private health expenditure as percentage of GDP (Bahrain, Kuwait, UAE), while one countries has inverse and inelastic relationship with dependent variable (KSA). In addition to two countries have direct and elastic relationship with private health expenditure

6. The coefficient of total expenditure on health as percentage of GDP there exist inverse and inelastic relationship between it and the dependent variable in two countries (Bahrain & Qatar) . in addition there exist direct and inelastic relationship between the variable and private health expenditure (Kuwait & KSA)
7. The coefficient of general government health expenditure as percentage government expenditure, the coefficient reflects direct and inelastic relationship with dependent variable for all countries.
8. The coefficient of out of pocket expenditure as percentage of total health expenditure shows direct and elastic relationship with the dependent variable for the countries (Bahrain & Kuwait) in addition to inverse and inelastic relationship for (Oman & Kuwait). While direct and elastic relationship for (UAE & KSA, Bahrain Qatar).
9. For the coefficient of out of pocket expenditure as percentage of private total health expenditure there exists inverse and elastic relationship with the dependent variable for the countries (Bahrain, Kuwait, UAE and Qatar), while exists direct and elastic relationship with the dependent variable for (Oman & KSA).
9. For the coefficient of total expenditure on health as percentage of population there exists direct and inelastic relationship with the dependent for the countries (Bahrain, Kuwait and KSA), while direct and elastic relationship with dependent variable exists with dependent variable for (UAE & Qatar). Furthermore it exists inverse and inelastic relationship with the dependent variable (Oman)
10. From the results of regression analysis if we take in consideration the out of pocket expenditure as percentage of private total health expenditure as important variable in the model (KSA & Oman) reflect increasing rate as compare to the rest countries. As far as the constant which reflects the change according to general or hidden factors, the development of private health insurance in (KSA & Oman) is decreasing compare to other gulf countries.

6. Conclusion

Considering the following three variable as important variable in the study

- Per capita total health expenditure
- out of pocket % private health expenditure
- out of pocket % total health expenditure

For Qatar the time trend of the three variable is negative , in addition the per capita total health expenditure has direct effect on private expenditure on health , while out of pocket % total health exp . &

out of pocket % private & have inverse effect on private expenditure on health.

For UAE the time trend of per capita total health expenditure and out of pocket %private health expenditure is negative, while the trend for out of pocket % total health expenditure is positive. per capita total expenditure and out of pocket % total health expenditure has direct effect on private expenditure on health . Where, out of pocket % private health expenditure has inverse effect on private expenditure on health.

For Kuwait, the time trend of the out of pocket % private health expenditure and out of pocket % total health expenditure have negative trend over time, while the per capita total health expenditure has positive trend. Per capita total health expenditure on health & out of pocket % total expenditure on health have direct effect on private expenditure on health where out of pocket % private expenditure on health has inverse effect on private expenditure on health.

For KSA out of pocket % private expenditure and out of pocket total health expenditure have negative time trend, while per capita total health expenditure has positive time trend. Per capita total health expenditure on health and out of pocket % total health expenditure and out of pocket % private health have direct effect on private expenditure on health.

As for Bahrain per capita total health expenditure, out of pocket % private expenditure on health and out of pocket % total health expenditure have positive growth rate on time trend . Per capita total health expenditure and out of pocket % total health expenditure have direct effect on private expenditure on health, while out of pocket % private health expenditure has inverse effect on private expenditure on health .

For Oman, Per capita total health expenditure and out of pocket % total health expenditure have positive time trend, while out of pocket % private health expenditure has negative time trend or growth rate. Per capita total expenditure on health and out of pocket % total health expenditure have inverse effect on private expenditure on health. While out of pocket % private health expenditure has direct effect on private expenditure on health.

For all Gulf States out of pocket % private health expenditure, Which is more important variable in the study, the time trend or growth rate is negative.

In sum, the above results along with important variables in the study, further more if one hold the private expenditure on health as percentage of GDP as key dependant variable formulating the track of future health insurance, We can rank the Gulf States in the following sense:

The growth of out of pocket as percentage of total health expenditure and the direction of its effect

on private expenditure on health as percentage of GDP . The rank is as follows:

KSA	First
OMAN	Second
QATAR	Third
UAE	Fourth
BAHRAIN	Fifth
KUWAIT	Sixth

Finally , for more development to health insurance sector on KSA depend largely upon the public expenditure policies on the health care , in order to enlarge the health insurance sector either to reduce the public subsidy to the health care or the government can engage directly in the health insurance sector as well as indirectly as partner with the private sector .

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