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FACTORS AFFECT PRICING PREMIUMS OF HEALTH INSURANCE AN EMPIRICAL STUDY IN PRIVATE INSURANCE COMPANIES IN KURDISTAN REGION-IRAQ

A Thesis Submitted to The Council of the College of Economic
and Administration at Salahadin University-Erbil in Partial
Fulfillment of the Requirement for The Degree of Master
(Financial Science and Banking)

Rezhin Qasim Rashad¹

¹ College of Administration and Economics - Salahaddin University, Erbil, Iraq

¹rejhinqasim210@gmail.com

Abstract : The research looks at how private health insurance premiums are set in the Kurdistan Areas-Iraq. The research investigates for finding the answers to the hypothesis questions. The aim of the study is to inquire the determinate factors which had impact on pricing the premiums for health insurance .The study has a significant impact on health insurance companies which is a relatively new phenomena in Kurdistan region-Iraq , the study looked at age, health status, employment group and position of work as the four key variables that affect how much a health insurance premium costs. The target audience for the study, which included managers, head department managers, and staff of the health insurance department, received 77 questionnaires in order to gather data. The statistical package for social science (SPSS) version 26 is used in the study to examine the data. Descriptive statistics, such as mean, standard deviation, and variance, are produced as a result of the data analysis. Regression analysis, ANOVA analysis, and Pearson correlation between variables are all examined in the study. The findings showed that all hypothesis were accepted and they have effect on the pricing of premium in health insurance. Due to the modernity of medical insurance pricing variables are still non-standard, and premium determination is a significant problem in the market due to some companies' failure to follow the correct underwriting procedure . The research comes to a close with its results. The findings and recommendations can help private health insurance providers and other industry participants improve their pricing strategy and policy. This study might theories of entrepreneurship for more research and bring out some of its limitations.

Keywords: The importance of health insurance consists of, financial benefits, Health benefits, and finally Peace of mind.

العوامل التي تؤثر على تسعير أقساط التأمين الصحي دراسة تطبيقية في شركات التأمين الخاصة في إقليم كردستان – العراق

رسالة مقدمة إلى مجلس كلية الإدارة والاقتصاد في جامعة صلاح الدين- أربيل لاستكمال جزئي لمتطلبات درجة الماجستير (العلوم المالية والمصرفية)

ريّزين قاسم رشاد¹

¹كلية الإدارة والاقتصاد – جامعة صلاح الدين، أربيل، العراق

المستخلص: يبحث الرسالة عن كيفية تحديد أقساط التأمين الصحي الخاص في إقليم كردستان العراق و وجدت الدراسة عدداً من المتغيرات التي لها تأثير على إستراتيجية تسعير نظام التأمين الصحي الخاص و حددت الدراسة العمر، الحالة الصحية ، التأمين الجماعي وموقع العمل باعتبارها المتغيرات الرئيسية الأربعة التي تؤثر على مقدار تكلفة أقساط التأمين الصحي و تلقى العينة المستهدفة للدراسة ، و الذي شمل المدراء و مديري الأقسام و موظفي التأمين الصحي، ٧٧ استبياناً من أجل جمع البيانات . و استخدم الحزمة الإحصائية للعلوم الاجتماعية (SPSS) الإصدار ٢٦ في الدراسة لفحص البيانات . يتم إنتاج الإحصاءات الوصفية مثل المتوسط والانحدار المعياري و التباين ، نتيجة لتحديد البيانات . يتم فحص تحليل الانحدار و تحليل ANOVA و علاقة بيرسون بين المتغيرات في الدراسة. و توصلت الدراسة الى اجابات عن اسئلة البحث و فرضية الإختبار، و أظهرت النتائج ان جميع الفرضيات مقبولة و لها تأثير على تسعير أقساط التأمين الصحي. نظراً لحدثة التأمين الصحي في إقليم كردستان ، لاتزال متغيرات التسعير غير قياسية، و يمثل تحديد الأقساط مشكلة كبيرة في السوق بسبب عدم اتباع بعض شركات التأمين الإجراءات الصحيحة وفقاً لشروط العقد و تركيبه، تبحث الدراسة فيما إذا كانت هناك أي عوامل مهمة من شأنها أن تؤدي أقساط متفاوتة و خدمات الصحية الكفوة. تظهر النتائج ان التأمين الصحي في الأقليم عادة ما يكون أقل مما هو مطلوب و ان معظم الأفراد يجهلون نطاقه الكامل.

و ينتهي البحث بالنتائج و التوصيات التي تساعد مزودي الخدمة التأمين الصحي الخاص و غيرهم من المشاركين في العمل على تحسين إستراتيجية و سياسة التسعير الخاصة بهم. وتؤدي هذه الدراسة الى نظريات ريادة الأعمال لمزيد من البحث والدراسات و إبراز بعض قيودها.

الكلمات المفتاحية: التأمين ، التأمين الصحي، التسعير، الأقساط.

Corresponding Author: E-mail: rejhinqasim210@gmail.com

Introduction

Health insurance is one of the most important options available to the government for financing acceptable health care for its population, while also legalizing and improving their quality. It is a tributary of social security and represents a more advanced idea of risk protection.

The best way for facing the risks is having Insurance, So Life is important, and we should value it by leading a healthy lifestyle. However, leading a healthy lifestyle does not guarantee that you will be free of health hazards. Abdulhady and Alzamamiry (2014) states that The oldest document was issued to a man called William Gybbaus in (1583) and is regarded the oldest document that can be monitored for life insurance.

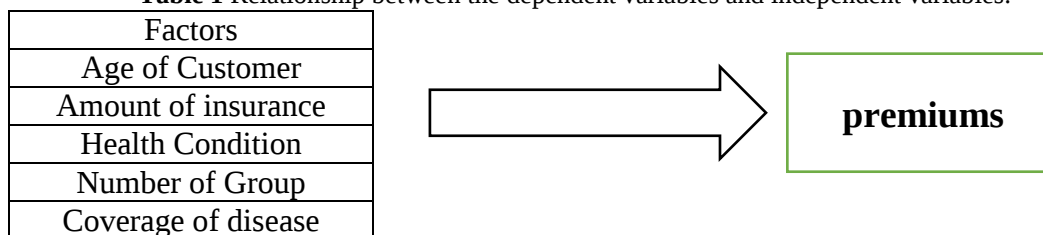
Ghadeer (2004) states Craftsmen in certain European countries organized unions in the Middle Ages, with the goal of establishing organizations to assist members in their sorrow when they became ill. Associations for cooperative services began to emerge in the eighteenth century under various titles, such as (friendship societies, patients' friend's funds). In 1883, the German government passed a rule requiring workers earning less than a specific amount to join a union.

Henri Fayol, is recognized that with being the first to recognize the necessity of risk and insurance functions in industrial projects. It is noteworthy that the application of the concept of health insurance influenced several European countries, with Austria becoming the first to do so in 1887.

According to Mamandi (2013) there is always the possibility of something happening in the future that makes financial losses such illness. For dealing with these risks without negative consequences, he recommended health insurance company programs that will assist society by giving a structured strategy that will assist you in the event of any health concerns. In the private sector, health insurance tries to deliver the greatest services, distinguished by quality, new techniques, and so on,

at the most affordable prices but it's worth to be mention (crews), Medical care and health insurance are not rights; they are services that must be purchased.

Table 1 Relationship between the dependent variables and independent variables:



METHODOLOGY AND SAMPLING

This chapter describes the empirical approach of the present study. The empirical research is mostly based on quantitative analysis of the data collected through the survey among the private insurance companies. The data collection took place in May 2022 via distinguish questionnaires' hard copies to branch managers of different Insurance companies with a request as a random sample of insurance company's employee to fill them in 2022. A %97 response rate was measured out of the total of the questionnaires' filled in by respondents. The researcher applied the SPSS program version 26th to analyses data collected by questionnaire. in total,77 questionnaires were used to analyze data.

Empirical model:

$$\ln(P_{it}) = \alpha + \beta_1 \ln(W1, it) + \beta_2 \ln(W2, it) + \beta_3 \ln(W3, it) + \beta_4 \ln(W4, it) + \beta_5 \ln(W5, it) + \beta_6 \ln(W6, it) + \beta_7 \ln(W7, it) + \beta_8 \ln(W8, it) + \beta_9 \ln(W9, it) + \beta_9 \ln(W10, it) + \beta_9 \ln(W11, it) + \beta_9 \ln(W12, it) + \beta_9 \ln(W13, it) + \beta_9 \ln(W14, it) + \beta_9 \ln(W15, it) + \beta_9 \ln(W16, it) + \beta_9 \ln(W17, it) + \beta_9 \ln(W18, it) + \beta_9 \ln(W19, it) + \beta_9 \ln(W20, it) + \beta_9 \ln(W21, it) + \beta_9 \ln(W22, it) + \epsilon_{it}$$

Variables

The present study analysis the following variables described in further points. There is one dependent variable and several independent variables which together comprise the liner regression model.

Dependent Variable

The dependent variable (Pit) is measuring the factors that affecting pricing health insurance premium.

Independent variable

independent variables of the study based on the factors which affects the pricing premiums of health insurance. The study gets an advantage for determining independent variables of the factors which affect pricing premium of health insurance, the present study uses the following independent variables .in the equation 3.1 Ln (Pit) is a dependent variables describing the established factors in affecting the pricing premium of health insurance and the variables are:

(W1,it) __ Age	(W12, it) __ The marital status of client
(W ² ,it) __ Position	(W13, it) __ competition
(W ³ ,it) __ Health condition	(W14, it) __ deduction
(W ⁴ ,it) __ Smoking and tobacco use	(W15, it) __ exclusion
(W ⁵ ,it) __ Drinking Alcohol	(W16, it) __ group plan
(W ⁶ ,it) __ Family history	(W17, it) __ individual plan
(W ⁷ ,it) __ Treatment location	(W18, it) __ Category of health insurance

(W8,it) __ The number of treatments and visiting to physician	(W19, it) __ Past experience with a client
(W9,it) __ The total Coverage amount	(W20, it) __ Past Experience with a group plan
(W10,it) __ Competition between the insurance companies	(W21, it) __ Benefit period
(W11,it) __ The gender of the client	(W22, it) __ Elimination period

Data Collection

The study collected data through a survey and represents qualitative research which is based on a questionnaire, thus primary data was collected from a sample of employees and managers from the insurance companies in Erbil and Sulaymaniah. A variety of facts must be dispersed over a large population. In order for replies to come from the general public, survey questionnaires must be structured to apply heterogeneous target groups (from different gender, races, age, groups, educational background, different ethnicities).

Table1.2 Distribution of respondent in different insurance companies

Dlnia insurance	<i>Erbil</i>	<i>Iraqi</i>	20	25.9%
Asia insurance	<i>Sulaymaniah</i>	<i>Iraqi</i>	19	24.6%
Al-Hamraa insurance	<i>Erbil</i>	<i>Iraqi</i>	16	20.7%
UR international insurance company	<i>Erbil</i>	<i>Iraqi</i>	20	25.9%
Songa insurance	<i>Erbil</i>	<i>Iraqi</i>	2	2.5%
Total			77	100%

Source: Author's own research and statistical data analysis.

Table 2 Cronbach's Alpha
Case Processing Summary

Cases	N		%
	Valid	75	97.4
	Excluded ^a	2	2.6
	Total	77	100.0

Source: Author's own research and statistical data analysis(SPSS).

Table 3 RELIABILITY STATISTICS

Cronbach's alpha	Cronbach's alpha based on standardized items	N of items
0.124	0.862	23

Source: Author's own research and statistical data analysis(SPSS).

Table 4 Intraclass correlation Coefficient

Intraclass Correlation ^b	%95 Confidence Interval lower Bound	%95 Confidence Interval Upper Bound	F Test with True Value 0 Value	F Test with True Value 0 df1	F Test with True Value 0 df2	F Test with True Value 0 sig
Single measures 0.006 ^a	-0.007	0.027	1.142	74	1628	0.196
Average measures 0.124 ^c	-0.190	0.387	1.142	74	1628	0.196

Source: Author's own research and statistical data analysis(SPSS).

Two-way mixed effects model where people effects are random and measures effects are fixed.

- The estimator is the same, whether the interaction effect is present or not.
- Type C Intraclass correlation coefficients using a consistency definition. The between-measure variance is excluded from the denominator variance.
- This estimate is computed assuming the interaction effect is absent, because it is not estimable otherwise.

Table 5 Coefficient of the model

Model	Unstandardized Coefficient		Standardized Coefficient %95		confidence for internal		
	B	Std.Error	Beta	t	sig	Lower Bound	Upper Bound
X1	3.238	1.121		2.889	0.006	0.990	5.486
X2	0.748	0.247	0.935	3.030	0.004	0.253	1.244
X3	-0.145	0.100	-0.309	-1.451	0.153	-0.346	0.056
X4	-0.265	0.108	-0.361	-2.461	0.017	-0.481	-0.049
X5	-0.030	0.100	-0.057	-0.299	0.766	-0.230	0.170
X6	-0.137	0.099	-0.243	-1.383	0.172	-0.334	0.061
X7	0.297	0.089	0.529	3.328	0.002	0.118	0.476
X8	0.067	0.114	0.096	0.561	0.577	-0.164	0.292
X9	0.199	0.313	0.195	0.638	0.528	-0.428	0.826
X10	-0.227	0.159	-0.401	-1.426	0.160	-0.546	0.092
X11	-0.207	0.130	-0.257	-1.599	0.116	-0.467	0.053
X12	0.216	0.113	0.443	1.902	0.063	-0.012	0.443
X13	0.040	0.096	0.075	0.420	0.676	-0.153	0.234
X14	0.196	0.152	0.289	1.290	0.203	-0.109	0.502
X15	-0.070	0.093	-0.128	-0.748	0.458	-0.257	0.117
X16	0.059	0.169	0.075	0.347	0.730	-0.281	0.399
X17	0.388	0.190	-0.580	-2.042	0.046	-0.769	-0.007
X18	-0.087	0.197	-0.113	-0.444	0.659	-0.483	0.308
X19	0.294	0.113	0.470	2.609	0.012	0.068	0.521
X20	-0.200	0.124	-0.366	-1.609	0.114	-0.449	0.049
X21	-0.084	0.107	-0.130	-0.783	0.437	-0.298	0.0131
X22	0.015	0.096	0.025	0.153	0.897	-0.178	0.207

Source: Author's own research and statistical data analysis(SPSS).

According to the results we can see that the age(X2) is at the top that means age is the most effective factor on premium pricing of health insurance secondly family history(X7) after that past experience with the clients(X19) then it follows gender(X12), deduction (X14), visiting times and therapies(X9), finally treatment location(X8).

Table 6 ANOVA

Model	Sum of squares	df	Mean squares	F	sig
Regression	15.358	21	0.731	3.251	0.000
Residual	11.922	73	0.225		
Total	27.280	54			

Source: Author's own research and statistical data analysis(SPSS).

CONCLUSION AND FINDINGS

the objective of the study was mainly to evaluate the factors that have impact on the pricing premium of health insurance in Kurdistan's private insurance companies.

The study's main goal was to determine the variables that affect pricing health insurance in private insurance companies in Kurdistan. Due to the modernity of medical insurance in Iraq, price variables are still non-standard, and premium determination is a key issue in the competition, with some businesses failing to use the proper underwriting methodology. The market in Iraq's Kurdistan area lacks the actuarial analyses that are required to establish the minimum price for medical insurance, which is required by science.

The study examines if there are key variables that will result in different premiums for the similar health insurance plans and services depending on the terms of the contract and the demographic environment, with depending on the results we can determine the most important factors which are age, position of work, type of plan group or individual, finally family history.

According to the results, health insurance in Kurdistan is generally inadequate and most people are unaware of what it covers. As a result, more has to be done in this area to educate people about their options. The most important factors which been mentioned by the employees which been worked in this area were (age, period of insurance, type of insurance, traveling, health condition, Exclusions or canceling it, how much afforded or total amount of coverage ,adding dental coverage , past experience with the client, location, medical history, pre-existing condition, BMI, number of the insured member and activity of the organization for the group plans, Gender, scope of work for the individual plan, number of visiting , covering the chronic disease, copayments, determining the location for health treatments inside or outside the country, the nationality ,economic condition of the country and the client like what we have now in Iraq instability of dollars exchanging price in domestic markets, the insurance period and the waiting period, the numbers of the insurer are large or not).

The study discovers that every variable has a direct effect on the cost of health insurance premiums, although other variables, including smoking, drinking alcohol, and using tobacco, have an impact on premium costs outside of the Kurdistan region and Iraq (foreign countries).

RECOMMENDATIONS FOR FURTHER STUDIES:

The private health insurance is been determined as a new phenomena in Kurdistan region-Iraq , and there policies varies from the public health insurance. in Kurdistan Region there is no public health plans and the private health insurance plans are not active because of the lack of knowledge about these important sectors. Lots of work must be done on this sector

The researchers must pay more attention on this field and we recommend a study which would be geographically more diversified and contains more respondent.

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Thank you for your cooperation.

Less () 25 () 50 () 75 () 100 () more ()

	Questions	Agree	Totally Agree	Neutral	Disagree	Totally Disagree
X1	Health insurance premium depends of many factors					
X2	the age has a direct relationship on the premium.					
X3	the position of client has impact on the premium pricing.					
X4	Health condition of client has impact on the premium pricing.					
X5	Smoking, tobacco use of client has impact on the premium pricing.					
X6	Drinking Alcohol has impact on the premium pricing.					

X7	The family history has impact on the premium pricing.					
X8	Treatment locations (inside and abroad) has impact on premium pricing .					
X9	The number of treatment and visiting to physician has impact on premium pricing.					
X10	The total coverage amount has impact on the premium pricing					
X11	Competition between insurance companies has impact on premium pricing					
X12	The gender of client has impact on premium pricing					
X13	The marital status of clients has impacts of premium pricing.					
X14	the Deduction has impact on the premium pricing.					
X15	The exclusion has impact on the premium pricing.					
X16	Group plans has impact on the premium pricing.					
X17	The individual plan has impact on more advantages.					
X18	Category of health insurance has impact on premium pricing .					
X19	Past experience with a client has impact on premium pricing.					
X20	Past experience with a group plan has impact on premium pricing.					
X21	Benefit period for health insurance policy has impact on premium pricing.					
X22	Elimination period for health insurance policy has impact on premium pricing.					