



## THE EFFECT OF SOCIAL AND DEMOGRAPHIC AND ECONOMIC FACTORS ON LIFE INSURANCE DEMAND

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### Abstract

Nowadays, life insurance is a significant component of human life which most important role is welfare of households in the future. Life insurance as an investment tool as well, in order to overcome the difficulties caused by the death of the head of household and aging and senility. Life insurance demand is influenced by various economic and social and demographic factors.

The aim of this paper is to analyze social and demographic and economic determinants of life insurance consumption. The study also seeks to identify the most essential components such as: age, saving, marital status, income, education.

The data were collected using a questionnaire, and data analyze was done using SPSS software. A questionnaire survey was conducted with the sample consisting 223 people, which had experience in life insurance. In this study, for data analysis the Kolmogorov-Smirnov test and the Spearman correlation test was used.

**Keywords:** Life Insurance Demand, Social Factors, Demographic Determinants, Economic Factors.

### 1. Introduction

Insurance is a protection against financial loss arising on the happening of unexpected event. Life insurance as an investment tool as well, in order to overcome the difficulties caused by the death of the head of household and aging and senility. In many countries with life insurance, a great resource for the entire community, which can be obtained from the insurance taken for his development of the insurance industry and can be applied in other sectors or service.

Despite the development of insurance in developed countries and even many developing countries, we can see life insurance is an essential need for today life. More specifically, insurance may be defined as a contract where in one party (the insurer) agrees to pay to the other party (the insured) or his beneficiary, a certain sum upon a given contingency (the risk) against which insurance is required.

The aim of this paper is to analyze social and demographic and economic determinants of life insurance consumption. The study also seeks to identify the most essential components such as: age, saving, marital status, income, education and advertising.

### 2. Review of the Literature

Insurance has been defined to be that by which a sum of money as a premium is paid by the insured in consideration of the insurers bearing the risk of paying a large sum upon a given contingency. Life insurance or commonly life assurance, especially in the Commonwealth is a contract between an insured (insurance policy holder) and an insurer or assurer, where the insurer promises to pay a designated beneficiary a sum of money the "benefits" in exchange for a premium, upon the death of the insured person. Depending on the contract, other events such as terminal illness or critical illness may also trigger payment. The policy holder typically pays a premium, either regularly or as a lump sum. Other expenses such as funeral expenses are also sometimes included in the benefits.

#### 2.1. Income

Income level significantly affects the demand for life insurance. Life insurance becomes more affordable when income increases. Hammond et al. (1967) and Mantis and Farmer (1968) find influence of employment on life insurance consumption. Namely, employment provides source of income and according to the theory to the theory of consumption it is permanent factor which determines level and distribution of income among consumption and saving. Thus, life insurance will be demanded more by individuals who are employed compared to those unemployed. The findings of Cargill & Troxel (1979), Babbal (1985), Browne & Kim (1993), Outreville (1996) and Rubayah and Zaidi (2000) confirm that income has a positive relationship with life insurance demand.



**2.2.Education:**According to Outreville (1996) individuals with higher level of education are more aware of risk and the importance of risk management. Thus, education increases risk aversion and education have higher income and can people to demand life insurance. Consequently, more life insurance will be purchased by more educated individuals. Moreover according to Browne & kim (1993) higher education implies that individuals are dependent on family income earner. Thus, education could serve as additional proxy for dependence on the family breadwinner.

Additionally, as the family income earner is more educated, implying that he/she receives a high income. There will be a higher financial loss to the family in case of his/her dead in comparison to those of with lower education. Education is found to be positively related of life insurance demand in empirical studies of Hammond et al. (1968), Truett & Truett (1990), Browne & Kim (1993), and Li et al. (2007). Life insurance consumption should rise with education for several reasons. First of all, as showed by Browne and Kim (1993), education is a good proxy to measure the risk aversion. An individual s education level is positively related to greater risk aversion. A higher level of education may increase the ability of people to understand the benefits and complexity of risk management and long term saving considering social security financing issue.

**2.3.Marital status:**Mantis & Farmer (1968) find that marriages have an effect on life insurance demand, but contrary to the expectation, it is negative. Namely, they expect that married men spend more money on life insurance than single men since they want to project their dependents of death risk of family breadwinner. The explanation of the empirical results could be that unmarried individuals have more disposable income and thus more resource to buy life insurance than those married.

**2.4.Saving:**A higher interest rate on alternative saving products tends to cause insurance products to become less attractive as a saving instrument.

Outreville (1996) has shown that interest rates such as the real interest rate and the lending are not a determining factor affecting the demand for life insurance. The real interest rate is obtained by subtracting the anticipated inflation from the current bank discount rate.

**2.5. Age:**Age is a significant factor in purchasing a life insurance demand. In other words, with increasing age the demand for life insurance will be increased. Sometimes people think that they are not ill till the age of 65, they do not think your insurance and this will affect on demand. The government must have plan with new advertising methods to increase understanding and awareness of people about life insurance.

### 3. Research Methodology

Based on the literature review, the model focused on the effect of social and demographic and economic factors on life insurance demand which consists of the relationship of income, education, marital status, saving and age with respect to life insurance demand . The model is summarized in Figure 1.

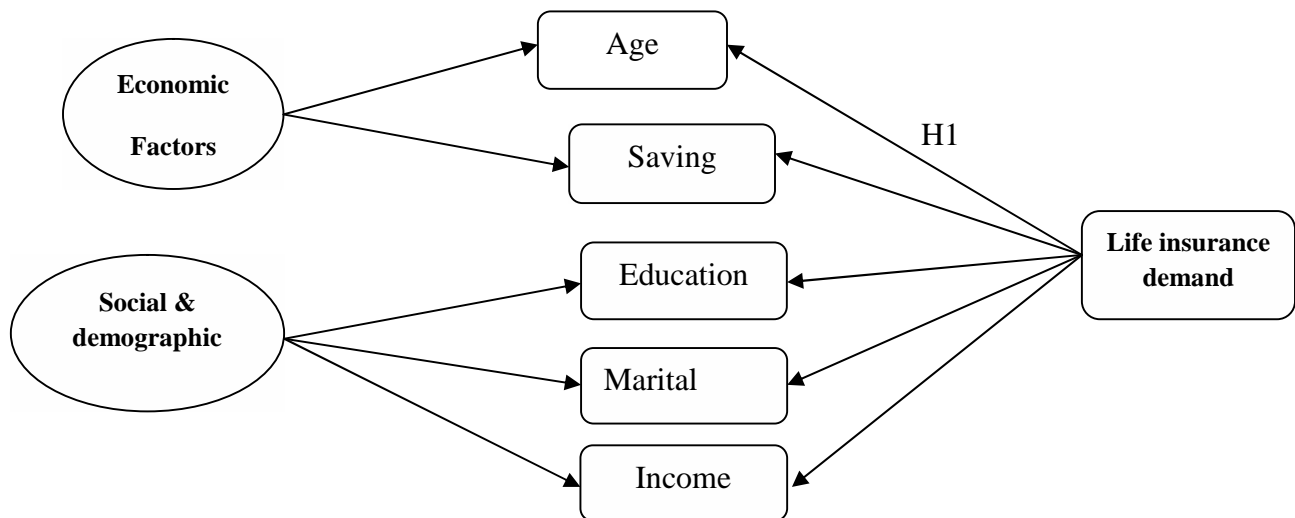


Fig 1 . Conceptual Framework



### Research Hypotheses

Research hypotheses based on the research model include:

- H1: Income has a significant relation on life insurance demand.
- H2: Saving has a significant relation on life insurance demand.
- H3: Education has a significant relation on life insurance demand.
- H4: Marital status has a significant relation on life insurance demand.
- H5: Age has a significant relation on life insurance demand.

In this study, we collected data through questionnaires with a sample size of 223 respondents. Overall, from the total of 274 questionnaires distributed during a two month data collection period, there were only 223 valid questionnaires received that could be used for further analysis.

### Data Analysis and Finding

This Tables and bar chart indicates the presents descriptive profiles of the sample (N=223), including major items demographic profiles such as gender, age group, education level, occupation, income level.

**Age(Years)**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 21-30	133	59.6	59.6	59.6
31-40	66	29.6	29.6	89.2
upper the 41	24	10.8	10.8	100.0
Total	223	100.0	100.0	

**Male Or Female**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid f	73	32.7	32.7	32.7
m	150	67.3	67.3	100.0
Total	223	100.0	100.0	

**Occupation Position**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid student	102	45.7	45.7	45.7
government employee	73	32.7	32.7	78.5
private employee	48	21.5	21.5	100.0
Total	223	100.0	100.0	



#### Educational Level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	diploma	66	29.6	29.6	29.6
	bachelor	54	24.2	24.2	53.8
	master	84	37.7	37.7	91.5
	phd	19	8.5	8.5	100.0
	Total	223	100.0	100.0	

Income(revenue)					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	under the 499\$	126	56.5	56.5	56.5
	upper the 500\$	90	40.4	40.4	96.9
	4.00	7	3.1	3.1	100.0
	Total	223	100.0	100.0	

In this research hypothesis, Spearman correlation test is being used. First, to examine the condition of normal distribution of data, Kolmogorov-Smirnov test used and the results are shown in Table .

#### Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Age	223	5.5605	1.50215	2.00	8.00
Save	223	6.4664	1.42926	3.00	8.00
Education	223	8.0493	1.78641	5.00	12.00
Income	223	11.1749	2.48435	6.00	16.00
Marital status	223	10.9686	2.62591	3.00	15.00
LI Demand	223	8.4664	1.92833	3.00	11.00



**One-Sample Kolmogorov-Smirnov Test**

	Age	save	education	income	marital	LIDemand
N	223	223	223	223	223	223
Normal Mean	5.5605	6.4664	8.0493	11.1749	10.9686	8.4664
Parameters <sup>a,b</sup> Std. Deviation	1.50215	1.42926	1.78641	2.48435	2.62591	1.92833
Most Extreme Absolute	.180	.188	.161	.204	.204	.205
Differences Positive	.115	.142	.161	.105	.112	.094
Negative	-.180	-.188	-.108	-.204	-.204	-.205
Kolmogorov-Smirnov Z	2.689	2.810	2.408	3.042	3.051	3.068
Asymp. Sig. (2-tailed)	.000	.000	.000	.000	.000	.000

By the overall looking at this table above, we can see the significant in all of the variable are 0.000 and are lower than =0.05, as a result, it is indicated the data distribution isn't normal.

Therefore, it must used of nonparametric tests. So, here Spearman correlation test is being used.

**Testing the first Hypothesis**

There is a significant relation between age and life insurance demand.

H0: There is a significant relation between age and life insurance demand.

H1: There is no significant relation between age and life insurance demand.

<b>Table 1: Correlation between age and life insurance demand</b>				
			Age	LIDemand
Spearman's rho	Age	Correlation Coefficient	1.000	-.001
		Sig. (2-tailed)	.	.983
		N	223	223
	LIDemand	Correlation Coefficient	-.001	1.000
		Sig. (2-tailed)	.983	.
		N	223	223

As a can be seen in the correlation table 1, we can see the significance is 0.983 and is higher than =0.05, H0 is accepted.

It can be said that at 0.01 level, There is no significant relation between age and life insurance demand with a correlation equal to -.001.

**Testing The Second Hypothesis**

There is a significant relation between saving and life insurance demand.

H0: There is a significant relation between saving and life insurance demand.

H1: There is no significant relation between saving and life insurance demand.



**Table 2: Correlation between saving and life insurance demand**

		save	LIDemand	
Spearman's rho	save	Correlation Coefficient	1.000	
		Sig. (2-tailed)	.	
		N	223	
	LIDemand	Correlation Coefficient	.325**	1.000
		Sig. (2-tailed)	.000	.
		N	223	223

As a can be seen in the correlation table 2, we can see the significance is 0.000 and is lower than  $\alpha = 0.05$ , H0 is rejected. It can be said that at 0.01 level, There is a significant relation between saving and life insurance demand with a correlation equal to 0.325.

### Testing the third Hypothesis

There is a significant relation between education and life insurance demand.

H0: There is a significant relation between education and life insurance demand.

H1: There is no significant relation between education and life insurance demand.

**Table 3: Correlation between education and life insurance demand**

		education	LIDemand	
Spearman's rho	education	Correlation Coefficient	1.000	
		Sig. (2-tailed)	.	
		N	223	
	LIDemand	Correlation Coefficient	-.187	1.000
		Sig. (2-tailed)	.067	.
		N	223	223

As a can be seen in the correlation table 3, we can see the significance is 0.067 and is higher than  $\alpha = 0.05$ , H0 is accepted. It can be said that at 0.01 level, There is no significant relation between saving and life insurance demand with a correlation equal to  $-0.187$ .

### Testing the fourth hypothesis

There is a significant relation between marital status and life insurance demand.

H0: There is a significant relation between marital status and life insurance demand.

H1: There is no significant relation between marital status and life insurance demand.

**Table 4: Correlation between marital status and life insurance demand**

		marital	LIDemand	
Spearman's rho	marital	Correlation Coefficient	1.000	
		Sig. (2-tailed)	.	
		N	223	
	LIDemand	Correlation Coefficient	.348**	1.000
		Sig. (2-tailed)	.000	.
		N	223	223

As a can be seen in the correlation table4, we can see the significance is 0.000 and is lower than  $\alpha = 0.05$ , H0 is rejected.



It can be said that at 0.01 level, There is a significant relation between marital status and life insurance demand with a correlation equal to 0.348.

### Testing the fifth Hypothesis

There is a significant relation between income and life insurance demand.

H0: There is a significant relation between income and life insurance demand.

H1: There is no significant relation between income and life insurance demand.

**Table 5: Correlation between income and life insurance demand**

		income	LIDemand	
Spearman's rho	income	Correlation Coefficient	1.000	
		Sig. (2-tailed)	.000	
		N	223	
	LIDemand	Correlation Coefficient	.390**	1.000
		Sig. (2-tailed)	.000	.
		N	223	223

As can be seen in the correlation table5, we can see the significance is 0.000 and is lower than  $\alpha = 0.05$ , H0 is rejected.

It can be said that at 0.01 level, There is a significant relation between marital status and life insurance demand with a correlation equal to 0.390.

### Conclusion

The major focus of this study is that to examine the effect of social and demographic and economic factors such as age, saving, marital status and income on life insurance demand. According to the results, saving, marital status and income have a significant relation with life insurance demand and another variable age and education have no significant on life insurance demand.

These elements are very important in life insurance demand. Life insurance is a significant component of human life which most important role is welfare of households in the future. Therefore should be detailed and explicit information on people and pay attention to their needs and desires.

**Table 6: Summary of hypothesis testing**

Hypothesis	Coefficient	Result
H1: between age & life insurance demand	-.001	No Significant relation
H2: between saving & life insurance demand	.325	Significant relation
H3 between education & life insurance demand	-.187	No Significant relation
H4 between marital status & life insurance demand	.348	Significant relation
H5: between income & life insurance demand	.390	Significant relation

### References

1. Merton. D, 1979, "An Analysis of the Demand for Life Insurance: Mathematical Foundation", the Journal of Risk and Insurance, 46:2, pp. 87-98.
2. Beck, Thorsten, and Ian Webb. "Economic, demographic, and institutional determinants of life insurance consumption across countries." The World Bank Economic Review 17.1 (2003): 51-88.
3. Truett. D. B and L. J. Truett, 1990, "The demand for life insurance in Mexico and the United States: a comparative study", the journal of risk and insurance, vol. 7, no.2, pp.321-328.
4. Lewis. F.D, 1989, Dependents and the Demand for Life Insurance, American Economic Review, vol. 79 no3, pp.452-467.
5. Browne,M.J.&Kim,K (1993). "An International Analysis of Life Insurance Demand", Journal of Risk and Insurance, 60, 4,676-634.
6. Lewis, E. D. (1989). "Dependents and the Demand for Life Insurance ", American Economic Review, 79, 3, 452-467.



7. Li, D., Moshirian, F., Nguyen P., &Wee, T. (2007). "The demand for life insurance in OECD countries ", *Journal of Risk & Insurance*, 74, 3,637-652.
8. Mantis, George, and Richard N. Farmer. "Demand for life insurance." *Journal of Risk and Insurance* (1968): 247-256.
9. Beenstock, Michael, Gerry Dickinson, and Sajay Khajuria. "The determination of life premiums: An international cross-section analysis 1970–1981." *Insurance: Mathematics and Economics* 5.4 (1986): 261-270.
10. Outreville, J. Francois. "Life insurance markets in developing countries." *Journal of Risk and Insurance* (1996): 263-278.
11. Headen, R. S. and Lee, J., (1974), Life insurance demand and household portfolio behavior, *Journal of risk and insurance*, vol. 41, no. 4, and pp. 685.
12. Zietz, Emily Norman. "An examination of the demand for life insurance." *Risk Management and Insurance Review* 6.2 (2003): 159-191.
13. Campbell, Ritchie A. "The demand for life insurance: An application of the economics of uncertainty." *The Journal of Finance* 35.5 (1980): 1155-1172.
14. Robertson, J. M., (1982), World Demand for Life Insurance, *International Insurance Monitor*, vol. 36, no. 6, pp. 19-22.
15. Enz, Rudolf. "The S-curve relation between per-capita income and insurance penetration." *Geneva Papers on Risk and Insurance. Issues and Practice* (2000): 396-406.
16. Ando, Albert, and Franco Modigliani. "The " life cycle" hypothesis of saving: Aggregate implications and tests." *The American Economic Review* (1963): 55-84.
17. Showers, Vince E., and Joyce A. Shotick. "The effects of household characteristics on demand for insurance: A tobit analysis." *Journal of Risk and Insurance* (1994): 492-502.
18. Ward, Damian, and Ralf Zurbruegg. "Law, politics and life insurance consumption in Asia." *Geneva Papers on Risk and Insurance. Issues and Practice* (2002): 395-412.
19. Babbel, David F. "The price elasticity of demand for whole life insurance." *The Journal of Finance*. vol. 40, no. 1 (1985): 225-239.
20. Browne, Mark J., and Robert E. Hoyt. "The demand for flood insurance: empirical evidence." *Journal of risk and uncertainty* 20.3 (2000): 291-306.
21. Hammond, J. D., David B. Houston, and Eugene R. Melander. "Determinants of household life insurance premium expenditures: an empirical investigation." *Journal of Risk and Insurance* (1967): 397-408.
22. Cargill, Thomas F., and Terrie E. Troxel. "Modeling life insurance savings: Some methodological issues." *Journal of Risk and Insurance*. vol. 46, no.2 (1979): 391-410.