

# Determinants of life insurance demand in Ethiopia

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## ARTICLE INFO

### Article history:

Received 19 November 2018

Revised 27 March 2019

Accepted 27 March 2019

### JEL Classification:

G22; C21

### Key words:

Ethiopia, Demand, Determinant, Life Insurance

### DOI:

10.14414/jebav.v21i3.1474

## ABSTRACT

Life Insurance plays an important role to insure against lifetime uncertainty resulting for the mortality risk of individual. Even though the performance of insurance industry contributes to smooth operation of the nation's economy, the industry in general and life insurance in particular is at its low level of development in Ethiopian context. This study is aimed at investigating the determinants of life insurance demand in Ethiopia. The study used balanced panel data model to examine the determinants of life insurance demand using data collected from four insurance companies for sixteen years, from 2001-2016. Random effect model was used to analyze the data. The study used life insurance density as dependent variable and seven independent variables: income, inflation, real interest rate, life expectancy, age dependence ratio, price of insurance, and urbanization. The regression result shows that real interest rate, life expectancies, age dependency ratio, urbanization and inflation show positive and significant effect at 1% and 5% significance level on life insurance demand in Ethiopia, whereas GDP per capita and price of insurance has insignificant effect on life insurance demand in Ethiopia. Urbanization is the most important factor that influences demand for life insurance followed by life expectancy, age dependency ratio and Inflation. Real interest rate is the least important factor in influence demand for life insurance. The concerned insurance companies are recommended to consider these factors in marketing their life insurance products.

## ABSTRAK

Asuransi Jiwa berperan penting untuk memastikan ketidakpastian yang berisiko kematian individu. Meskipun kinerja industri asuransi berkontribusi pada kelancaran operasi ekonomi negara, industri pada umumnya dan asuransi jiwa khususnya, berada pada tingkat perkembangan yang rendah dalam konteks Ethiopia. Penelitian ini bertujuan untuk menyelidiki faktor-faktor penentu permintaan asuransi jiwa di Ethiopia. Penelitian ini menggunakan balanced panel data model untuk menguji faktor-faktor penentu permintaan asuransi jiwa menggunakan data yang dikumpulkan dari empat perusahaan asuransi selama enam belas tahun, dari 2001-2016. Random effect model digunakan untuk menganalisis data. Penelitian ini menggunakan life insurance density sebagai variabel dependen dan tujuh variabel independen: pendapatan, inflasi, tingkat bunga riil, harapan hidup, rasio ketergantungan usia, harga asuransi, dan urbanisasi. Hasilnya menunjukkan bahwa tingkat bunga riil, harapan hidup, rasio ketergantungan usia, urbanisasi, dan inflasi berpengaruh positif dan signifikan pada tingkat signifikansi 1% dan 5% pada permintaan asuransi jiwa di Ethiopia, sedangkan PDB per kapita dan harga asuransi berpengaruh tidak signifikan pada permintaan asuransi jiwa di Ethiopia. Urbanisasi adalah faktor terpenting yang memengaruhi permintaan akan asuransi jiwa diikuti oleh usia harapan hidup, rasio ketergantungan usia dan inflasi. Tingkat bunga riil adalah faktor yang paling tidak penting dalam mempengaruhi permintaan akan asuransi jiwa. Perusahaan asuransi yang bersangkutan disarankan untuk mempertimbangkan faktor-faktor ini dalam memasarkan produk asuransi jiwa mereka.

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## 1. INTRODUCTION

Insurance is one of the key tools in modern life which has a great role in reducing risks and providing financial and mental security, and finally it can broaden for countries economic development (Derakhshideh & Jalaei 2014). It also enables the parties involved to protect their assets and livelihood. People, as a group or individually, use assurance in cases of injuries, damages, and untimely deaths of the principal earner. Insurance firms as financial intermediaries play a significant role within a nation's financial system by mobilizing funds from the surplus economic unit and channeling it to the deficit investment unit of the economy (Sulaiman, Migiro & Yeshihareg, 2015). Beck and Webb (2002), on their study on determinants of life insurance consumption posited that life insurance products are important vehicle that encourage long-term savings that could be channeled to investment in both private and public sector projects.

The researchers, further, indicated that as life insurance products offer a means of disciplined contractual saving, they have become effective as instrument for encouraging substantial amounts of savings, competing with other forms of saving (like bank deposits, securities, and other contractual savings) in the market in many countries around the world. According to Munir & Khan (2012), Life insurance provides individuals and the economy as a whole with a number of important financial services. The world Bank development research group report dated (2002) indicated that in the face of increasing urbanization, mobility of the population, and formalization of economic relationships between individuals, families, and communities, life insurance has taken increasing importance as a way for individuals and families to manage income risk.

Life insurance products encourage long-term savings and reinvestment of substantial sums in private and public sector projects. As major financial intermediaries, life insurers have become a key source of long-term finance. Taking such enormous role of life insurance in the betterments of the economy, various studies were conducted in different corners of the world to investigate the determinants of life insurance. The result of such studies suggests that several factors such income, inflation, real interest rate, banking sector development, savings, unemployment, and pension, price of insurance education, life expectance, dependency ratio and age are considered important factors that determine life insurance demand. The prevailing literatures mainly are of developing countries and conducting research on determinants

of life insurance demand in the context of developing country is timely and worth taking. Insurance business play significant role in economy of nations. Life insurance is essential because of the fact that the financial interests of beneficiary remain protected from circumstances such as loss of income due to critical illness or death and insurance products have a strong inbuilt wealth creation proposition (Beck & Webb, 2003).

Despite of the Ethiopia's long history of civilization and the financial sector of Ethiopia in general and the insurance mainly the life insurance in particular has not developed. It is among the lowest in the world and African countries in terms of the three measures namely: Insurance premium market share, market penetration rate and insurance density (insurance premium per capita). Insurance companies' investment activities are heavily constrained by the restrictions that the National bank of Ethiopia investment proclamation imposed. This forces insurance companies to invest the majority of their funds in government securities and bank deposits at negative real interest rates. The lack of infrastructure, especially a stock market, further constrains insurance companies' investment activities (Mezgebe 2010).

Available evidences indicated that particular economic environment and variables affected life insurance market *see* (Lim & Haberman, 2002, Beck & Webb, 2003; and Sen, 2008). The main focus of these researches was investigating the effect of demographic variables and other macroeconomic parameters on the life insurance market in Asia, OECD and developing nations. In the case of Ethiopia, as in most developing countries, the insurance sector specifically life insurance is small and underdeveloped (Suleiman, 2015). In Empirical researches conducted by Abdurrahman (2006), Amrot (2014), Simon (2016) and Kedir (2016) focused on macroeconomic and demographic determinants of the life insurance demand in Ethiopian. As far as the understanding of the researchers is concerned, the prevailing researches are not comprehensive in that firm specific variables are not included as basic determinants of the life insurance demand.

This study differs from the previous studies in that it examines the determinants of life insurance demand considering firm specific, macroeconomic & demographic perspective in the context of Ethiopia. Furthermore, the current study is different from the previous researches in the following aspects; all the previous studies use time series data or cross sectional data approach while the current

study use panel data and also use more recent time data than others in order to investigate the determinant of life insurance demand in Ethiopia. Therefore, this is a gap make this study worthwhile and timely to analyze the determinants of life insurance in selected insurance businesses in Ethiopia.

## **2. LITERATURE REVIEW**

Empirical evidences show contradicting results as to the determinants of life insurance demand. Enz (2000) studied the relationship between the demand for life insurance and economic development and concluded that, while the income elasticity varied, there was a connection between the penetration degree of life insurance and income per capita, indicating that the consumption of life insurance tended to rise with the economic growth in developing countries, but once it reaches the level of developed countries, the insurance consumption begins to decline.

Rubayah and Zaidi (2000) estimated the life insurance demand from 1971 to 1997 by taking the number of policies as a dependent variable and the set of macroeconomic factors. Findings showed that income had a direct link while, inflation rates had an insignificant direct link with life insurance demand. The personal savings rate and short-term interest rate were significant and inversely related with the life insurance demand, while the current interest rate was found to have no significant influence on life insurance demand.

Beck and Webb (2003) conducted a comprehensive research over 68 countries of the world, paying attention to the question what causes the variance in life insurance consumption between different countries. Four different measures of life insurance consumption and incorporate various economic, demographic and institutional factors used in their research. As a result, they found that countries with higher income per capita level, more developed banking sector and lower inflation tend to consume larger amounts of life insurance. In addition, life insurance consumption is observed to be positively influenced by private savings rate and real interest rate. Such demographic factors as education, life expectancy, young dependency ratio does not have any robust influence on the life insurance consumption.

Hwang and Gao (2003), examined the elements for life insurance demand in China by explaining the huge growth in this industry after the economic reforms of 1978. Study found that the basic element that have effected people to buy insurance policies

are positively related to upper stages of economic security, the rise in the education level and the modification in social structure. However, this study had not found an inverse influence of inflation on life insurance consumption; even China faced large inflation in the mid-1990s. Lim and Haberman (2002) on their work identified that the savings deposits rate and price change in insurance are two important macroeconomic variables associated with the demand for life insurance in Malaysia. However, the finding on the savings deposits rate fails to show the expected negative sign. They recommended as further research is needed in this respect in order to confirm the relationship between these two variables. A change in the price of insurance has a significant negative relationship with the demand for life insurance.

Hwang and Greenford (2005) analyzed major determinants of life insurance consumption in Mainland China, Hong Kong, and Taiwan. Interestingly, results obtained found no correlation between price of insurance and life insurance consumption. Income and education were found to have significant influence on life insurance demand, while social security was found to have no correlation with life insurance demand. Furthermore, their findings revealed a positive correlation between level of economy and life insurance demand, even though different results reported in mainland China. Sen and Madheswaran (2007) investigated the role of economic and political variables in the life insurance consumption pattern of 4 SAARC, 6 Asian and 2 greater China region economies from 1994 to 2004. Insurance penetration and density were the dependents element in cross country analysis and the estimates of fixed and random effects model proved that incomes, savings and inflation were main variables in describing insurance consumption. Study also done the time series analysis of life insurance demand for India from 1965 to 2004 and findings cleared that income (GDP per capita), financial depth, per policy price of insurance products and real interest rates were significant factors.

Nesterova (2008) explored the modifications in life insurance demand for 14 countries of former Soviet Union and Central and Eastern Europe including Ukraine from 1996-2006. Panel results cleared that economies with greater life expectancy at birth, income and education level, old dependency ratio had larger life insurance consumption while, financial development, inflation and real interest rate decreased the life insurance demand across countries. Whereas, young dependency ra-

tio, urbanization level and institutional factors have no significant relation with life insurance demand.

Sen (2008) in his article "An Analysis of Life Insurance Demand Determinants for Selected Asian Economies and India" has tried to understand economic and other socio-political variables, which may play a significant role in explaining the life insurance consumption pattern in Greater China Region and six ASEAN countries for the 11-year period 1994-2004 and also tried to re-assess whether or not the variables best explaining life insurance consumption pattern for twelve selected Asian economies in the panel are significant for India for the period 1965 to 2004. This research has highlighted that in India the economic variables such as income, savings, prices of insurance product, inflation and interest rates & demographic variables like dependency ratio, life expectancy at birth, crude death rate and urbanization are few significant determinants which effect the insurance consumption.

Celik and Kayali (2009) investigated the determinants of demand for life insurance in cross section of 31 European countries. They found that income is the central variable which affects life insurance consumption. In addition, while the impact of population and income on demand for life insurance is positive, education level and inflation affect life insurance consumption in negative way. Ade Ibiwoye, Joseph, Ideji, Babatunde & Oke (2010) on their study examined the determinant of life insurance consumption in Nigeria during the period 1970 – 2005 within an error correction framework. They found that real gross domestic product and structural adjustment policy positively and significantly influence Life Insurance consumption in Nigeria while indigenization policy and domestic interest rate are statistically significant but inversely related to Life Insurance consumption. On the other hand, they discovered that return on investment, inflation rate, openness of the economy and political instability are insignificant predictors of Life Insurance consumption in Nigeria.

Kakar and Shukla (2010) on their research on determinants of demand for life insurance in an emerging economy -India using logistic regression has confirmed that insured households tend to be more prosperous, more educated and more optimistic about future security than non-insured households. Both the level of education and occupation of the chief earner of a household are major determinants of life insurance participation, apart from asset-ownership. Further, households that are more optimistic about the adequacy of future in-

come and savings show higher levels of participation.

Roman (2011) found that the long run and short run relationship among the variables under consideration by applying co-integration and error correction model. Both the long run and short run dynamics regression result confirm that financial development (FD) and inflation are the two important variables that have a positive and negative significant impact on life insurance demand respectively. The short run dynamic regression shows price, real interest rate and gross domestic saving per capita are negatively correlated and significant predictors of demand for life insurance. Negative impact of real interest rate on the demand for life insurance in Ethiopia confirms the preferences of population towards alternative financial assets.

Kjosevski (2012) tried to identify determinants of the demand of life insurance in 14 countries in Central and South-Eastern Europe (CSEE). Results of this study show that higher, GDP per capita, inflation, health expenditure, level of education and rule of law are the most robust predictors of the use of life insurance. Real interest rates, ratio of quasi-money, young dependency ratio, and old dependency ratio control of corruption and government effectiveness do not appear to be robustly associated with life insurance demand.

Munir and Khan (2012) on their study on impacts of macroeconomic & demographic variables on the demand of life insurance in Pakistan identified that financial development, gross savings, income level are directly linked to life insurance demand while, price of insurance are inversely linked with life insurance demand and the demographic variables of crude birth rate, crude death rate, old age dependency ratio, urbanization are positively related with life insurance demand for Pakistan. Also, Aderaw (2013) on his article on determinants of life insurance in Ethiopia examined the determinants of life insurance by a time series data for the period 1991-2010. He identified that life insurance is determined by per capita income, life expectancy, real interest rate and inflation. It is suggested that life insurance industry in Ethiopia seriously consider these factors to bring growth in the insurance industry.

Curak, Dzaja & Pepur (2013) on their study on the effect of social and demographic factors on life insurance demand in Croatia identified that age, education and employment impact life insurance demand of household in Croatia while gender, marital status and number of family members do not have statistically significant influence. Mah-

dzan & Victorian (2013) investigated the determinants of life insurance demand among life insurance policyholders of five major life insurance companies in Kuala Lumpur, Malaysia their results. Zerriaa & Noubbigh (2016) studied economic and socio-demographic factors as life insurance demand determinants across MENA region. Their findings revealed the positive impact of GDP per capita income; inflation and financial sector developments among macroeconomic factors while life expectancy in socio-demographics. Dependency ratio and social security found negatively affecting the insurance demand.

### 3. RESEARCH DESIGN AND METHODOLOGY

Explanatory design with quantitative approach was used to accomplish the purpose of the study. One state owned insurance and eight private insurance in Ethiopia were used as population of the research from which samples were selected. Purposive sampling was used to deliberately select sample life insurances based on the selection criteria set by the researchers. Accordingly, out of nine life insurance companies four life insurance were purposively selected as a sample based on the market share, total assets & profit and availability of data during the years 2001 to 2016. Accordingly, Ethiopia insurance corporation S.C, Awash insurance company S.C , Africa insurance company S.C & Nile insurance company S.C were selected as the sample for this particular study. Secondary data mainly collected from the National Bank of Ethiopia (NBE), Central Statistically Authority (CSA) & sample of four insurance companies audited financial statements.

Life insurance Density expressed insurance premiums per capita in constant dollars are the dependent variables of this research. Whereas, income which is the ratio GDP at market price divided by the number of population represents disposable personal income. In line with this, this study uses the ratio of GDP to the population to represent GDP per capita. The proxy for real interest rate is expressed by deposit interest rate minus inflation. Life expectance at birth- is measured by the number of years the average individual in a country is expected to live. Age Dependence ratio is the ratio of dependents--people younger than 15 or older than 64-to the working-age population--those ages 15-64. Urbanization - is the ratio of the share of urban to total population as a proxy for this variable. Price of insurance- the ratio of the total annual premium in force to the total sums insured in force

in a year are the independent variables emanated from existing theories.

Descriptive statistics, correlations and multiple linear regression analysis of panel data for the years 2001 to 2016 was used to analyze the data and come up with the conclusion of the study. Based on Hausman specification test, random effect regression was conducted for this study by using STATA 13 econometric software package to test the casual relationship between the independent variables and the Life insurance demand. The analysis was based on the following model developed based on variables of the study.

$$LID_{it} = \beta_0 + \beta_1 GDP_{PCit} + \beta_2 INF_{it} + \beta_3 RIR_{it} + \beta_4 PI_{it} + \beta_5 ADR_{it} + \beta_6 LEX_{it} + \beta_7 UR_{it} + \epsilon$$

Where:

LID = life insurance density

GDP<sub>PC</sub>= gross domestic product per capita

INF= inflation

RIR =real interest rate

PI=price of insurance

ADR = age dependency ratio

LEX= life expectancies

UR= urbanization rate

ε =is the error component for company i at time t assumed to have mean zero  $E[\epsilon_{it}] = 0$

β<sub>0</sub>= Constant

β= 1, 2, 3...7 are parameters to be estimate;

i = insurance company i = 1. . . 4; and t = the index of time periods and t = 1. . . 16

### 4. RESULTS AND DISCUSSION

#### Descriptive analysis

Table 1 provides summary of the descriptive statistics of the dependent and independent variables used in the study. The table shows the mean, minimum, maximum, standard deviation and number of observations for the dependent variable is life insurance demand measured by life insurance density (lid) and independent variables are income level (gdp per capita), real interest rates, inflation, price of life insurance, age dependency ratio, urbanization and life expectancy at birth.

As shown on table 1, the average life insurance density is \$1.574102 i.e. From the total population each individual on average spends it, a maximum of \$3.53738 and a minimum of \$0.28389 annually on life insurance. The standard deviation of life insurance per capita was 1.259515 percent, suggesting that lid was not highly dispersed or not far from the mean value.

**Table 1**  
**Descriptive Statistics of Dependent and Independent Variables**

Variable	Obs	Mean	Std. Dev.	Min	Max
LID	64	1.574102	1.259515	.28389	3.53738
GDPPC	64	8.459723	.3328878	8.101829	9.089753
INF	64	.1221875	.1170957	-.106	.364
RIR	64	-.0815625	.1552898	-.512	.173
LNPI	64	15.64753	2.79568	10.93275	18.87052
ADR	64	.8520625	.0680256	.75	.93
LNLX	64	4.061923	.0629881	4.007333	4.162003
UR	64	.16825	.0149785	.151	.199

Source: Stata output results for sampled life insurance from 2001-2016

GDP per capita is used as a proxy for income and it is measured as the GDP at market price divided by the number of population that represents disposable personal income. The table above shows that average value GDP per capita for 16 years is \$8.459723, the maximum amount of natural GDP per capita is \$9.089753 and a minimum amount is GDP per capita is \$8.101829. The standard deviation of GDP per capita was 0.3328878 percent, suggesting that GDP per capita was not highly dispersed or no far from the mean. Inflation is measured by CPI. The result further shows that the average CPI rate for 16 years is 0.1221875, the maximum amount of CPI is 0.364 and a minimum amount of CPI is negative 0.106. The standard deviation of CPI was 0.1170957 percent, suggesting that CPI was not highly dispersed or far from the mean. Real interest rate is calculated by subtracting inflation from deposit interest rate.

The result also shows that the average real interest rate for 16 years is -0.0815625, the maximum amount of real interest rate is 0.173 and a minimum amount of real interest rate is -0.512. The standard deviation of real interest rate was 0.1552898 percent, suggesting that real interest rate was not highly dispersed or not far from the mean. Price life insurance is measured by the ratio of the total annual premium in force to the total sums insured in force in a year. The result show that the average value insurance price was 15.64753, the maximum amount of price of insurance 18.87052 and a minimum amount is 10.93275. Age dependency ratio is the ratio of dependents people younger than 15 or older than 64 to the working-age population those ages 15-64 (World Bank, 2015). The table 4.1 shows that, the average age dependency ratio was 0.8520625, the maximum age dependency ratio was 0.93 and a minimum age dependency ratio was 0.75.

Life expectance is measured by the number of years that the average individual in a country is

expected to live. The table above shows that, the average the value of life Expectancies was 4.061923 years, the maximum value of life Expectancies was 4.162003 years and a minimum value of life Expectancies was 4.007333 years. Urbanization is measured rate of the population of the urban inhabitants. The result shows that, the average Urbanization rate was 0.16825 percent the maximum Urbanization rate was 0.199 and a minimum urbanization rate was 0.151.

### Correlation Analysis

Correlation measures the degree of linear association between variables. Values of the correlation coefficient are always ranged between +1 and -1. A correlation coefficient of +1 indicates that the existence of a perfect positive association between the two variables, while a correlation coefficient of -1 indicates perfect negative association. A correlation coefficient of zero, on the other hand, indicates the absence of relationship (association) between two variables (brooks, 2008).

The correlation output shows that the degree of correlation among dependent and independent variables gross domestic product per capita, inflation, price of life insurance, life expectance at birth and urbanization have positive correlation with life insurance demand with the coefficient of 0.7055, 0.2681, 0.6713, 0.8111, and 0.8511 respectively. On the other hand, real interest rate and age dependency ratio have negative correlations with life insurance demand with the coefficient of -0.0709 and -0.5162 respectively.

The output, as on Table 2 shows the regression result of life insurance demand which is measured by Life insurance density (LID) as dependent variable and the explanatory variables of firm specific, socio-demographic and macroeconomic determinants. The overall adjusted R square in the model is 0.8608 this indicates the model is the best to explain the LID in Ethiopia. This means on average

86.08 % of the change in Life Insurance Demand can be explained by the variables in the model. The results of the regression output show that gross domestic product per capita has positive but association has no statistically significant effect on life

insurance demand in Ethiopia with a regression coefficient of 0.3615467 and p-value of 0.190. This implies that a country's income (GDPPC) with life insurance demand is expected to be ambiguous.

**Table 2**  
**Pearson Correlations Analysis**

.corr	LID	LNGDPPC	INF	RIR	LNPI	ADR	LGLX	UR
(Obs=64)								
Corr.	LID	GDPPC	INF	RIR	PI	ADR	LEX	UR
LID	1.0000							
GDPPC	0.7055	1.0000						
INF	0.2681	0.2344	1.0000					
RIR	-0.0709	-0.1060	-0.4935	1.0000				
PI	0.6718	0.5989	0.3697	-0.2317	1.0000			
ADR	-0.5162	0.3250	0.3911	-0.3695	-0.2293	1.0000		
LEX	0.8111	0.5813	-0.0712	0.0239	0.5332	-0.8039	1.0000	
UR	0.8511	0.6441	0.0571	-0.0462	0.5976	-0.7599	0.8956	1.0000

Pearson correlations analysis

Source: stata output from data of 2001-2016

### Multiple Linear Regression Analysis

**Table 3**  
**Random effects gls model regression result**

.xtreg LID GDPPC INF RIR PI ADR LEX UR, re						
Random-effects GLS Regression				Number of obs : 64		
Group variable: country1				Number of groups : 4		
R-sq within : 0.6823				Oba per group: min : 16		
Between : 0.2884				avg : 16.0		
Overall : 0.8608				max : 16		
Corr (u_1,x) - 0 (assumed)				wald ch12 : 346.29		
				Prob>ch12 : 0.0000		
LID	Coef.	Std. Err.	r	P> (r)	95% conf.	Interval)
GDPPC	.3615467	.276079	1.31	0.190	-.1795583	.9026516
INF	1.765192	.7456535	2.37	0.018	.3037379	3.226646
RIR	1.680339	.5397482	3.11	0.002	.6224523	2.738226
PI	.0311702	.0450094	0.69	0.489	-.0570466	.1193871
ADR	8.049285	2.506474	3.21	0.001	3.136686	12.96186
LEX	10.99476	2.619822	4.20	0.000	5.859999	16.12951
UR	50.21257	12.1558	4.13	0.000	26.38764	74.03749
-cons	-62.02278	10.79085	-5.75	0.000	-83.17245	-40.87312
Sigma-u	0.23617284					
Sigma-e	1.49745315					
Rho	.0394	(fraction of variance due to u_1)				

Source: stata output results for sampled life insurance companies from 2001-2016

Beenstock (1986) posited that wealthy population groups do not need insurance protection, whereas poorer groups have limited demand be-

cause of income constraints. Both the possibility of declining risk aversion with greater wealth and the replacement of life insurance coverage with surplus

assets in an individual's portfolio are expected to reduce the demand for life insurance among the wealthy. A more equal income with a larger middle class might therefore, result in greater demand for life insurance. But although the middle class may have the greatest demand for life insurance savings products, there may be a minimum level of income at which these policies become affordable. Accordingly, in a poor country with a large middle class, fewer people may be able to purchase life insurance than in a poor country with a less equal distribution and a larger or wealthier upper class. The relationship between income and life insurance demand is thus ambiguous.

The regression output shows statistically significant and positive relationship between inflation and life insurance demand with a regression coefficient of 1.765192 and p-value of 0.018. This means that holding other independent variables constant and when one percent increases in inflation, consequently it increase life insurance density (LID) of demand of life insurance in Ethiopia by 1.80% and the p value of inflation is 0.018 reveals that it is statistically significant at 5% level of significance. This implies that insurance products demands are not affected in higher inflation period as economic growth also going on across the economy.

In line with regression result, the real interest rate (RIR) has a positive relationship with life insurance demand in Ethiopia by a coefficient estimate of 1.680339 and p-value of 0.002. This means that holding other independent variables constant at their average value and one percent increases in real interest rate, as a result it increase life insurance density (LID) of demand of life insurance in Ethiopia by 1.68% and the p value of RIR is 0.002 reveals that it is statistically significant at 1% level of significance. It implies that, real interest rate arises, insurance become more affordable. The result of multiple regression shows that price of life insurance has positive but not statistically significant influence on life insurance demand in Ethiopia with a regression coefficient of 0.0311702 and p-value of 0.489. This is inconsistent with the researcher expectation. The price of insurance variable is positive but statistically insignificant effect on life insurance demand (Hwang & Greenford, 2005). On contrary, Munir and Khan (2012) price of insurance had negative and significant effect on life insurance demand.

The results of the multiple regression output show that age dependency ratio has positive and statistically significant influence on life insurance demand in Ethiopia with a regression coefficient of

8.049285 and p-value of 0.001. This means that holding other independent variables constant and when one percent increases in age dependency ratio, as a result it life insurance density (LID) of life insurance demand in Ethiopia by 8.049285% and the p value of ADR is 0.001 discloses that it is statistically significant at 1% level of significance. This implies that an increase in Age dependency ratio has an impact on demand for life insurance, Number of dependents in a family increases, the main source of income is persuaded to buy life insurance to protect (hedge) against the loss of income due to disability or death. Additionally, also one of the key reasons of life insurance is to provide cover and financial security for one's offspring against financial loss should premature death of the bread winner occur, it may be anticipated that as the number of children increases the need for life insurance also rises all else remaining constant.

The results of the regression output show that life expectancy has a positive and statistically significant influence on life insurance demand in Ethiopia with a regression coefficient of 10.99476 and p-value of 0.000. This means that holding other independent variables constant and when one percent increases life expectancies, consequently it increase life insurance density (LID) of life insurance demand in Ethiopia by 11% and the p value of life expectancies (LX) is 0.000 reveals that it is statistically significant at 1% level of significance. It indicates life expectancy increases people tend increased to buy life insurance. Since the insurance companies are encouraged to decrease the price of insurance (premium) as they compensate the decrease by investing the premium in long-term investments by which they generate high return.

According to the regression result, Urbanization has positive relationship with of life insurance demand a coefficient estimate of 50.21257 and p value 0.000. This means that holding other independent variables constant and when one percent increases share of urban population, consequently it increase life insurance density (LID) of life insurance demand in Ethiopia by 50.95% and the p value of urbanization (UR) is 0.000 reveals that it is statistically significant at 1% level of significance. This implies that urbanization facilitates the distribution of life insurance products. It also supports the view that higher level of urbanization is associated with less reliance on informal insurance agreements, notably family and community. Additionally, when there is large urbanization people get all facilities from financial sector and also have ability to afford these luxuries in their lives. It also A higher degree



of concentration of the population can reduce the insurers' expenditures for marketing, for the distribution of policies, for underwriting and for claims' administration. Hence, indicating that rise in population shift to urban areas due to industrialization leads to higher income and awareness regarding these products especially for after retirement life and to protect their assets.

## 5. CONCLUSIONS, IMPLICATIONS AND SUGGESTIONS AND LIMITATIONS

From the output of the research, it can be concluded that urbanization, real interest rate, inflation, life expectancies and age dependency ratio positive and statistically significant influence on the demand for life insurance in Ethiopia. A change in these variables has a significant positive relationship with the demand for life insurance. The study also show that Gross domestic per capita and price of insurance have positive but statistically insignificant influence on the demand for life insurance in Ethiopia. Among these explanatory variables, urbanization, life expectancies and age dependency ratio are the most influential socio- demographic factors followed by inflation and real interest rate among the macroeconomic factors.

It is true that, societies with longer life expectancies should have higher savings through life insurance vehicles and more demand for annuities. Therefore, it is better if the government will develop a nationwide structural plan that gives much emphasis for health promotion and disease prevention activities through hospitals and health centers expansion that facilitate especially preventive mechanisms by giving training and professional advice to the community at large. Insurance companies in Ethiopia are also advised to focus on expanding their distribution channels in urban centers where they may benefit from the decline in spontaneous solidarity among members of family and community and from lower distribution costs. Finally, the result of this article could have been better had it incorporated more insurance businesses. But due to the infant age of the remaining insurance business the sample is limited to those insurance firms having data for the years under investigation.

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