Determinants of Insurance Demand: A Literature Review

محددات الطلب على التأمين: مراجعة للأدبيات

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A B S T R A C T

The aim of this paper is to examine the determinants of insurance demand. It contributes to the existing body of research by providing a thorough literature review of theoretical and empirical studies that have explored factors influencing both life and non-life insurance demand. In essence, it examines how economic, sociodemographic, and institutional variables can impact insurance demand.

Key words : non-life insurance demand, life insurance demand, determinants.
JEL Classification: G22

الملخص

الغرض من هذا البحث هو تحليل محددات الطلب على التأمين. تمكن أهمية هذا البحث من خلال إجراء عرض شامل للدراسات التجريبية والنظرية التي درست العوامل المؤثرة على الطلب على التأمين على الحياة و على غير الحياة. حيث أنه يوضح كيف يمكن أن تؤثر المتغيرات الاقتصادية والديموغرافية والمؤسسية على الطلب على التأمين.

الكلمات المفتاحية : طلب التأمين على الحياة , طلب التأمين على غير الحياة , محددات .

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I.   Introduction

Insurance is assuming an increasingly significant role globally due to its crucial impact on both economic and social fronts. Economically, it contributes to financing the economy by investing accumulated premiums in financial markets. Additionally, insurance promotes investments by providing necessary coverage to investors and facilitates exchanges and commerce. On the social front, insurance serves reparative, savings, and preventive functions. Furthermore, it complements the state's role in social protection.

The insurance sector operations, has experienced significant growth in recent years. In fact, insurance premiums written worldwide reached 6782, 235 billion USD in 2022 compared to 5178,273 billion USD in 2012 (Swiss Re Institute, 2023).

Despite the overall growth, there are notable disparities in the demand for insurance among various regions and countries. Indeed, insurance markets in the Emerging countries remain underdeveloped compared to advanced markets. There are also significant differences between Emerging countries in terms of insurance density and penetration.

The disparity in the demand for insurance among regions and countries raises questions about the reasons of these variations and thus about the determinants of this demand.

The objective of this research is to try to identify the main determinants of insurance demand based on the current empirical and theoretical literature.

II. Determinants of Insurance Demand

This section reviews the literature on economic, institutional, and sociodemographic variables that may affect insurance demand.

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1. **Economic Variables :**

Many studies have shown that the demand for insurance could be affected by several economic factors, namely: income, financial development, interest rate, and inflation.

1.1 Income

Income is the main determinant in all studies focusing on insurance demand.

The majority of previous studies have concluded that income positively affects the demand for non-life insurance. (Bah & Abila, 2022) investigated the impact of income on the demand for non-life insurance in 42 African countries during the period 1996-2017. The results of their study confirmed their initial hypothesis, stating that an increase in income makes insurance more affordable and consequently leads to an increase in the demand for non-life insurance. This finding aligns with those of (Esho, Kirievsky, Ward, & Zurbruegg, 2004), (Poposki, Kjosevski, & Stojanovski, 2015), (Park & Lemaire, 2012), and (Millo & Carmeci, 2011).

(Beenstock, Dickinson, & Khajuria, 1988) studied the relationship between income and the demand for property and liability insurance for a sample of 45 countries observed in 1981. They concluded that income positively affects the demand for property and liability insurance, with an income elasticity greater than 1. This result is consistent with the findings of the study by (Outreville J. F., 1990).

However, (Beenstock, Dickinson, & Khajuria, 1988) observed that this relationship deteriorates as countries become wealthier, but they did not provide an explanation for this phenomenon. This finding aligns with the researcher's S-curve hypothesis (Enz, 2000), which posits that there is a certain income level at which insurance demand reaches its peak. (Hussels, Ward, & Zurbruegg, 2005) explained this phenomenon by noting that at

higher income levels, consumers become so wealthy that they can afford to retain risks in their current financial portfolio.

Several researchers have concluded that there is a positive relationship between income and demand for life insurance. (Javed Habib & Ayyoub, 2023) assumed that the demand for life insurance should be positively related to income because an increase in income makes insurance more affordable and creates an increased demand for life insurance to maintain the standard of living of the insured and those dependent on them. The results of their study confirmed their hypothesis; they found that income positively affects the demand for life insurance in Pakistan during the period 1985-2023. This conclusion aligns with the findings of (Li, Moshirian, Nguyen, & Wee, 2007) and (Feyen, Lester, & Rocha, 2011).

(Ward & Zurbruegg, 2002) also found a positive relationship between demand for life insurance and income in Asian and OECD countries. However, they observed that life insurance consumption in OECD countries is three times less responsive to income variations compared to Asian countries. This result supports the S-curve hypothesis of (Enz, 2000), which posits that at higher income levels, insurance consumption becomes less sensitive to increases in income.

1.2. Financial Development

Several researchers have suggested that financial development could be an important explanatory factor for insurance demand. Financial development is commonly measured by the growth of the real size of the financial sector in absolute terms or relative to the GDP (Outreville J. F., 2012b). The M2 variable proposed by (Outreville J. F., 1990) and (Outreville J. F., 1996) is generally considered an appropriate measure of the size of the financial sector in developing countries, given the dominance of the banking sector and the lack of data on other financial assets.

Few studies have focused on the effect of financial development on non-life insurance demand. (Kolapo, Oluwaleye, & Osasona, 2022) examined the impact of financial development (measured by the development of the banking sector) in Nigeria during the period 1987-2020. They found a positive relationship between financial development and non-life insurance demand, explaining this result by the fact that banking development increases individuals' trust in insurance companies. This result aligns with those of (Outreville J. F., 1990) and (Feyen, Lester, & Rocha, 2011).

The majority of previous studies have found that financial development has a positive impact on the demand for life insurance. (Beck & Webb, 2003) assumed that financial development (measured by the development of the banking sector) is positively and significantly related to life insurance consumption because the proper functioning of the banking system enhances consumer confidence in other financial institutions such as insurance companies. This result aligns with those of (Sanjeewa, Hongbing, & Hashmi, 2019), (Li, Moshirian, Nguyen, & Wee, 2007), (Alhassan & Biekpe, 2015), and (Mitra & Ghosh, 2010).

1.3. Interest Rate

Several researchers have attempted to study the impact of the interest rate (real or nominal) on insurance demand.

Regarding non-life insurance demand, (Elango & Jones, 2011) found a positive relationship between non-life insurance density and the real interest rate in emerging countries during the period 1999-2008. However, they did not provide an explanation for this observation. (Beenstock, Dickinson, & Khajuria, 1988) found the same result and explained it by noting that the effect of increased insurer supply to achieve higher profits (due to the rise in interest rates) dominates the effect of decreased demand caused by the increased opportunity cost of insurance.

On the other hand, the study by (Millo & Carmeci, 2011), focusing on 103 Italian provinces during the period 1998-2002, concluded that non-life insurance demand is negatively and significantly related to the real interest rate. They explained this impact by noting that an increase in this rate makes self-insurance more attractive than insurance. This result is consistent with that of (Salem Alghusin & Kasasbeh, 2019).

As for life insurance demand, (Headen & Finley Lee, 1974) explained in their study that the impact of the interest rate on life insurance demand is difficult to predict because a higher rate could lead households to shift towards time deposits, while on the other hand, a higher rate could be perceived by households as a sign of a restrictive monetary policy, stimulating the demand for life insurance. Their study concluded that the impact of the real interest rate on life insurance demand is a phenomenon both in the short and long term. Indeed, they found that life insurance demand increases with the interest rate only in the short term.

(Beck & Webb, 2003) assumed that there is a positive relationship between the real interest rate and life insurance demand, given that a higher interest rate leads to increased returns on insurers' investments, enabling them to offer more attractive returns to policyholders. The results of their study confirmed their hypothesis. This result aligns with that of (Meko, Lemie, & Worku, 2019).

Moreover, (Li, Moshirian, Nguyen, & Wee, 2007) found that the real interest rate has a negative and significant impact on life insurance demand in 30 OECD countries during the period 1993-2000. They explained this result by noting that an increase in interest rates leads consumers to turn to other savings instruments, expecting higher returns for the same amount invested. This result aligns with that of (Dragos, Mare, & Dragos, 2019) and (Lee & Chiu, 2012).

Finally, several studies have found that the interest rate has no significant impact on life insurance demand, such as (Sen, 2008), (Outreville J. F., 1996), (Satrovic & Muslija, 2018), and (Reddy, Reddy, & Naidu, 2019).

1.4. Inflation

Many researchers have attempted to study the impact of inflation on insurance demand. Some have used the expected inflation rate (an average inflation rate based on changes in prices realized in the past), while others have used the annual inflation rate (Outreville J. F., 2012a, p. 19).

Few studies have focused on the impact of inflation on non-life insurance demand. (Poposki, Kjosevski, & Stojanovski, 2015) concluded that annual inflation has a negative impact on non-life insurance demand in 8 countries in Southeast Europe during the period (1995-2011). They explained this result by noting that inflation leads to monetary uncertainty.

Moreover, (Salem Alghusin & Kasasbeh, 2019) found that annual inflation has no significant impact on non-life insurance demand in Jordan. They explained this observation by noting that a large part of non-life insurance products in Jordan is subject to regulated tariffs, such as third-party automobile insurance prices. This result is consistent with that of (Bhatia & Yadav, 2013).

The majority of previous studies have shown that life insurance demand is negatively related to inflation.

(Asorh Oteng, Curtis Lartey, & Kwasi Amofa, 2023) concluded that inflation negatively affects life insurance demand in Ghana during the period 1994-2020. They explained this result by noting that inflation erodes the value of insurance. This finding aligns with those of (Alhassan & Biekpe, 2015), (Kjosevski, 2012), (Beck & Webb, 2003), and (Sen & Madheswaran, 2013).

Contrary to the majority of studies, (Javed Habib & Ayyoub, 2023) found that inflation has a positive impact on life insurance demand in Pakistan during the period 1985-2023. However, they did not provide an explanation for this result.

2. Sociodemographic variables

Insurance demand can also be affected by sociodemographic variables such as urbanization, religion, education, dependency ratio, and social security.

2.1. Urbanization

Many researchers consider that urbanization, defined as the proportion of a country's population living in urban areas, can affect insurance demand.

Regarding non-life insurance demand, (Kolapo, Oluwaleye, & Osasona, 2022) found that non-life insurance demand is positively and significantly related to urbanization. They explained this result by noting that urban residents can easily access insurance products, reducing their reliance on informal insurance products.(Esho, Kirievsky, Ward, & Zurbruegg, 2004) found the same result and explained it by the fact that high urbanization increases the probability of loss since there is a high concentration of assets in urban areas, which increases the likelihood of committing crimes.

(Trinh C. T., Nguyen, Sgro, & Pham, 2020) studied the impact of urbanization on property insurance demand in OECD countries during the period 2000-2017. They concluded that urbanization has a negative and significant impact on property insurance demand in OECD countries. They explained this result by noting that residents of urban areas in affluent countries may feel more secure than those in less urbanized areas.

As for life insurance demand, (Sanjeewa & Ouyang, 2020) concluded that urbanization has a positive and significant impact on life insurance demand in 18 Asian countries during the period 1996-2017. This result aligns with

that of (Asorh Oteng, Curtis Lartey, & Kwasi Amofa, 2023), and they explained this impact by noting that awareness of life insurance and the commercialization of life insurance products are more dynamic in urban areas.

However, (Sen, 2008) found that urbanization has a negative and significant impact on life insurance demand in 12 emerging Asian countries during the period 1994-2004. This result aligns with the study by (Alhassan & Biekpe, 2015), which covers 31 African countries during the period 1996-2010. (Alhassan & Biekpe, 2015) explained this negative impact by the combination of two factors: the emergence of poverty in the urban population and the fact that urbanization in the region results from the migration of the poor rural population to urban centers.

(Beck & Webb, 2003) assumed that the concentration of consumers in urban areas simplifies the distribution of life insurance products as it reduces costs related to commercialization, premium collection, contract underwriting, and claims processing. However, the results of their study indicate that this variable has no significant impact on life insurance demand. This finding aligns with that of (Outreville J. F., 2018) and (Dragos, 2014).

2. 2 Religion

According to some researchers, the degree of risk aversion in a country is related to the predominant religion; therefore, religion can affect insurance demand. Some studies consider multiple religions, while most only study the impact of Islamic beliefs.

The majority of studies on non-life insurance demand have overlooked this variable. (Park & Lemaire, 2012) analyzed the impact of Islamic, Christian, and Buddhist beliefs on non-life insurance demand. The results indicate that

only Islamic beliefs have a negative and significant impact on non-life insurance demand. This finding aligns with that of (Feyen, Lester, & Rocha, 2011).

The majority of studies have concluded that only Islamic beliefs have a negative impact on life insurance demand, such as the study by (Outreville J. F., 2018), (Beck & Webb, 2003), and (Browne & Kim, 1993). (Ward & Zurbruegg, 2002) explained this negative relationship by noting that the principles of Islamic law do not encourage certain forms of insurance based on speculation about future events. Meanwhile, (Khan, Alam, Ahmad, Iqbal, & Ali, 2011) explained it by stating that conventional insurance is considered non-compliant with Islamic legal principles since insurance companies invest the funds collected in interest-bearing securities before paying them out to policyholders as compensation.

2.3. Education

Several researchers consider education as an indicator of risk aversion. Thus, this variable could affect insurance demand. The level of education is measured by the gross enrollment ratio in higher education. The gross enrollment ratio in secondary education is sometimes used as an alternative measure of the level of education.

Regarding non-life insurance demand, (Dragos, 2014) used the gross enrollment ratio in higher education as an indicator of risk aversion. They concluded that education has a positive and significant impact on non-life insurance demand. This result aligns with that of (Salem Alghusin & Kasasbeh, 2019).

(Kolapo, Oluwaleye, & Osasona, 2022) analyzed the impact of the level of education on non-life insurance demand in Nigeria. The results of their study indicate that non-life insurance density is negatively related to the level of education. The authors explained this result by noting that

individuals with a high level of education seek high returns; therefore, they prefer holding risky assets rather than insurance products.

As for life insurance demand, (Truett & Truett, 1990) demonstrated, through a time series analysis for the United States and Mexico during the period 1960-1982, that an increase in the level of education leads to an increase in life insurance demand. They explained this relationship by noting that a higher level of education allows individuals to understand different types of life insurance, which can result in a stronger desire to protect dependents. This finding aligns with those of (Sanjeewa & Ouyang, 2020), (Li, Moshirian, Nguyen, & Wee, 2007), (Kjosevski, 2012), and (Hwang & Gao, 2003).

Moreover, (Zerriaa, Amiri, Noubbigh, & Naoui, 2017), (Millo & Carmeci, 2014), and (Mitra & Ghosh, 2010) found that education negatively affects life insurance demand in Tunisia, Italy, and India, respectively. (Zerriaa, Amiri, Noubbigh, & Naoui, 2017) explained this relationship by noting that a higher level of education leads to better risk management ability and portfolio diversification.

2.4. Youth Dependency

Several previous studies have identified the dependence of the youth as an important determinant of life insurance demand. The authors' conclusions regarding the impact of this variable on life insurance demand are mixed.

(Feyen, Lester, & Rocha, 2011) and (Zerriaa, Amiri, Noubbigh, & Naoui, 2017) found that life insurance demand is positively and significantly related to the youth dependency ratio. This is in line with the idea put forth by (Lewis, 1989) that the primary purpose of purchasing life insurance is to protect dependents against the impact of the insured's death on their future consumption.

However, (Asorh Oteng, Curtis Lartey, & Kwasi Amofa, 2023) found that life insurance demand is negatively related to youth dependency in Ghana during the period 1994-2020. They explained this result by noting that heads of households try to meet the financial needs of the young dependents (such as education expenses) and, therefore, may not be able to afford life insurance policies. This result aligns with those of (Sanjeewa, Hongbing, & Hashmi, 2019) and (Sulaiman, Migiro, & Yeshihareg, 2015).

Moreover, (Beck & Webb, 2003), (Satrovic & Muslija, 2018), and (Kjosevski, 2012) found that youth dependency has no impact on life insurance demand.

2.5. Social Security

Several previous studies have identified social security as a significant determinant of life insurance demand. However, researchers' assumptions regarding the impact of this variable on life insurance demand are mixed. Some believe that social security can replace life insurance, while others consider that there is a complementary relationship between social security and life insurance.

(Ward & Zurbruegg, 2002) suggested that state expenditures on social protection reassure individuals and do not encourage them to seek additional coverage against longevity or premature death, leading to a decrease in life insurance demand. The results of their study confirmed their hypothesis. (Li, Moshirian, Nguyen, & Wee, 2007), (Zerriaa, Amiri, Noubbigh, & Naoui, 2017), and (Beenstock, Dickinson, & Khajuria, 1986) also concluded that life insurance demand is negatively related to social security expenditures.

(Alhassan & Biekpe, 2015) assumed that life insurance demand is negatively related to social security expenditures since the increase in contributions allows for an increase in state spending on social security, leading to a reduction in individuals' disposable income and, consequently, their

demand for life insurance. However, they concluded that social security expenditures positively affect life insurance demand. This result aligns with that of (Browne & Kim, 1993).

3. Institutional variables

Certain studies have revealed that insurance demand could be influenced by institutional variables such as the legal system in place and political stability.

3. 1. The Legal System

Most authors categorize all legal systems worldwide into two families: the "Civil Law" system and the "Common Law" system (Park & Lemaire, 2012, p. 6). Very few studies have explored the impact of the legal system on the demand for life and non-life insurance.

(Park & Lemaire, 2012) examined the impact of the "Common Law" system on the demand for non-life insurance using a dummy variable that takes the value 1 if the country's legal system is the "Common Law" system and 0 otherwise. They expected the impact to be positive based on the conclusion of (Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1988) that Common Law countries generally provide better law enforcement and protection for investors and creditors than Civil Law countries. The study by (Park & Lemaire, 2012) concluded that the Common Law system encourages individuals to consume non-life insurance products. This conclusion aligns with that of (Browne, Chung, & Frees, 2000).

(Trinh, Nguyen, & Sgro, 2016) also used a dummy variable that takes the value 1 if the country's legal system is the "Common Law" system and 0 otherwise. They found that the "Common Law" system has no significant impact on the demand for non-life insurance in both developed and developing countries.

According to (Park & Lemaire, 2011), the value of life insurance should be higher in a country where creditor rights are better protected since life insurance is a financial contract based on a promise of future payment. Therefore, relying on the conclusion of (Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1988), (Park & Lemaire, 2011) assumed that the demand for life insurance should be higher in "Common Law" countries. The results of their study confirmed their hypothesis.

3.2. Political stability

The stability of a country's political environment has been identified by some researchers as an important factor in insurance demand.

Regarding non-life insurance demand, (Park & Lemaire, 2012) attempted to examine the impact of political stability on non-life insurance demand. They assumed that countries with low political risk are more likely to have developed insurance markets because such an environment is more conducive to foreign investments. To test this hypothesis, they used the Political Risk Services group's Political Risk Index[1]. The results of (Park & Lemaire, 2012) study confirmed their hypothesis: political stability indeed has a positive and significant impact on non-life insurance demand.

As for life insurance, (Bah & Abila, 2022) utilized the worldwide governance indicators developed by (Kaufmann et al, 2010) to test the impact of political stability on life insurance demand in Africa. The results of their study

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[1] The group (PRS) has published the "International Country Risk Guide," which provides data on the political risk of 140 countries. This index allows for the assessment of the political stability of countries on a scale ranging from 0 to 100 points, distributed across twelve variables known as political risk components: government stability, socio-economic conditions, investment profile, internal conflicts, external conflicts, corruption, military involvement in politics, religious tensions, law and order, ethnic tensions, democratic accountability, and finally, bureaucratic quality.

indicate that political stability has a positive effect on life insurance demand. This finding aligns with that of (Ward & Zurbruegg, 2002).

Some studies have found that there is no significant relationship between political stability and life insurance demand, such as (Beck & Webb, 2003), (Dragos, Mare, & Dragos, 2019), and (Kjosevski, 2012).

III. Conclusion

The Objective of this paper was to identify the determinants of both non-life and life insurance demand.

Based on the current empirical and theoretical literature, we were able to identify 11 variables that could affect the demand for insurance.

These variables can be grouped into three categories: economic variables (income, inflation, interest rate and financial development), socio-demographic variables (education, youth dependency , social security, education and urbanization) and institutional variable (political stability and the leagal system).

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