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IS LIFE INSURANCE CRUCIAL TO SOCIETY AND THE ECONOMY? EVIDENCE FROM ASIAN COUNTRIES BOTH BEFORE AND AFTER THE GLOBAL FINANCIAL CRISIS

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ABSTRACT

Life insurance is not merely vital for the economic development of a country but also the health of an individual's financial circumstances. This study examines the income elasticity of life insurance consumption and the impact of life insurance markets on economic growth in 22 Asian countries from 2001 to 2016. According to a panel data analysis of life insurance demand, it is inelastic in proportion to GDP per capita, implying that the product is a necessity for Asians. Furthermore, the results of a life insurance growth analysis conducted both before and after the 2007/2008 subprime crisis revealed that life insurance markets had a significant impact on economic growth. The findings showed the region's life insurance industry was hit hard by the crisis and shed more than 10% of its market value relative to the economy. This work provides a valuable reference and recommendations for corporations and government sectors to strengthen these countries' life insurance markets.

Contribution/ Originality: This study contributes to the existing literature by determining whether life insurance is considered a necessity or a luxury by Asians. By disaggregating the pre- and post-global financial crisis, the study explores the impact of the life insurance market on economic growth during Asia's truly diverse socio-economic development.

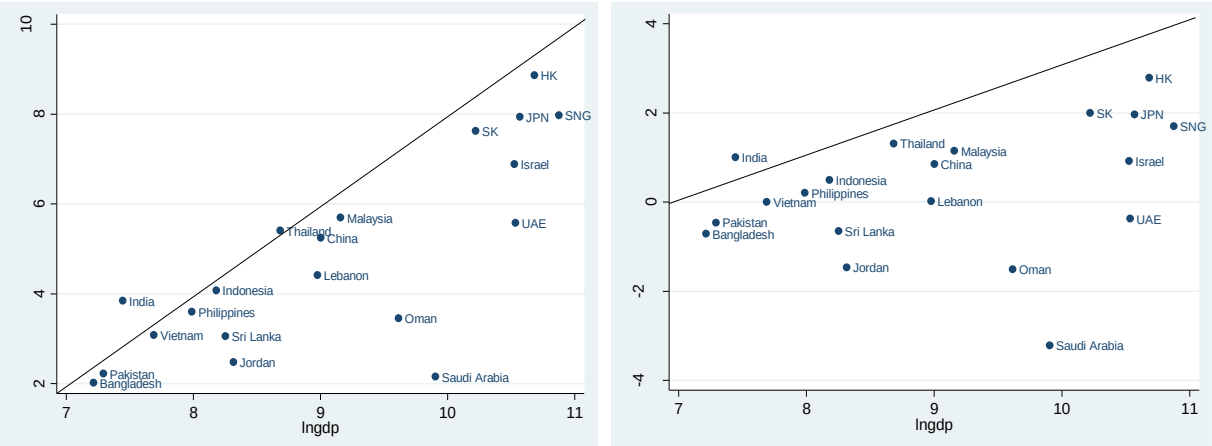
1. INTRODUCTION

Historically, the insurance industry, like other financial services, has grown in dominance as part of the development of financial institutions and markets. In domestic markets, insurance services are provided by national companies with local and foreign capital, as well as by foreign companies and agencies or branches. Life insurance companies, like general insurance corporations, are rapidly expanding and have been observed to be particularly developing their life insurance activities in emerging nations. The life insurance market has grown rapidly in recent years because it facilitates a wide range of economic transactions through risk transfer and indemnification while also boosting financial intermediation (Ward & Zurbruegg, 2002). Furthermore, the industry is argued to be driving economic growth in major countries in the Asia region and other parts of the world. Life insurance is a significant financial tool for both individuals and the economy because it encourages long-term savings, reinvestment of funds, risk management, and the development of capital markets to foster economic growth (Beck & Webb, 2003; Lee, Low, Chong, & Sia, 2018; Outreville, 1990, 1996). The emergence of the insurance market, like those of the banking sector and the stock market, should not be overlooked because it plays a crucial role in driving economic expansion (Chang

& Lee, 2012). Life insurance penetration has grown most rapidly in emerging Asian economies and Latin America, with China alone accounting for roughly a third of the total emerging economy premium volume (Swiss, 2011).

Insurance is perceived as a tool for financial security against unanticipated future financial loss. The availability of life insurance coverage will undoubtedly reduce the financial burden of society, especially for poor and middle-income populations. However, policies that introduce coverage of higher sums do not seem to work for developing economies in Asia as the products are not a priority when compared with gadget devices. Today's youth would rather spend their income on smartphones and other luxury goods, which are more expensive than insurance. In Malaysia, approximately four to five in ten citizens do not have life insurance coverage either for themselves or their families (Chin, 2016). Therefore, families would be faced with financial hardship to sustain their current standard of living if the main breadwinner dies. Accordingly, many governments of Asia's developed economies, except the countries with the lowest, around one percent, Muslim populations, namely Japan, South Korea, Hong Kong, and China, are developing social and economic policies that include transparency of new insurance penetration frameworks, such as general and family takaful (the Islamic version of life insurance) markets.

Figure 1(a) shows a strong positive relationship between life insurance consumption and per capita income for the sampled 22 Asian countries in 2016, as the R-squared is 0.74. Meanwhile, Figure 1(b) shows a weak positive relationship between life insurance market penetration and per capita income where R-squared is 0.22. Based on these figures, we can assert that citizens in lower and upper-middle-income countries (LMCs and UMCs) are not adequately covered by life insurance, and most people are generally unprepared for rainy days. However, most Muslim-majority countries provide alternative insurance coverage for Muslims in accordance with Sharia (Islamic laws).



(a) GDP and life insurance density **(b)** GDP and life insurance penetration

Figure 1. Scatter plot of income and life insurance indicators[1] in Asia, 2001 – 2016.

Notes: HK = Hong Kong, SK = Republic of Korea, JP = Japan, SNG = Singapore and UAE = United Arab Emirates. lngdp = natural log of income per capita, lnlid = natural log of life insurance density (premiums per capita), and lnpnt = natural log of life insurance penetration (premiums as a percentage of GDP).

At the same time, Figure 1(b) illustrates that India is ranked the highest in life insurance penetration among the sampled countries. This is a surprising discovery given that Indians have a relatively lower average national income per capita than the citizens of some other Asian countries such as Thailand and the Philippines. As expected, developed economies like Japan, Singapore, and South Korea demonstrate a robust relationship between life insurance market penetration and per capita income. However, the correlation between the variables does not imply the elasticity that represents the degree of sensitivity of changes in life insurance consumption to changes in income per

[1] Several proxies can be used to estimate life insurance consumption, including life insurance density, penetration, private life insurance savings, and life insurance in force to GDP (Beck & Webb, 2003). Insurance density is described as the premium per capita, which takes into account population but ignores economic development. Insurance penetration, on the other hand, refers to the ratio of insurance premium to GDP, integrates the size of the insurance market to the size of the economy while ignoring the population factor (Chang & Lee, 2012).

capita while other factors remain constant. Meanwhile, the correlation explains the strong relationship between national income per capita and the explanatory variable.

Accordingly, this paper poses two questions: (1) Is life insurance a necessity or a luxury for citizens of the selected Asian countries? In other words, are Asian people ready to bequeath a portion of their monthly income to life insurance providers and invest for life after retirement? (2) Does the life insurance market impact economic growth? The general interest of this study is to comprehend the significance of life insurance to the benefit of communities and economies in the selected 22 Asian countries. In particular, the paper attempts to conduct an empirical study to fill the gap in the literature on life insurance issues in two ways. First, it investigates the income elasticity of life insurance consumption. Income elasticity of demand is helpful for governments and businesses to determine what commodities to produce and how changes in overall economic income affect the demand for their products, in other words, whether it is inelastic or elastic (Agarwal, 2019)[2]. Several control factors, like socio-demographic and health, are included in this study when estimating the income elasticity of life insurance expenditure. Second, the study uses a novel dynamic GMM method with financial development indicators to analyze the impact of the life insurance market on economic growth both before and after the 2007/2008 global financial crisis.

The paper is divided into six sections. Section 1 is an introduction to life insurance, as above, section 2 presents literature reviews on the issues and originality of the study, section 3 goes further into detail on the dataset and procedures used, section 4 discusses the estimation findings, and section 5 draws the discussions to a close. Finally, there are several suggestions for further studies.

2. LITERATURE REVIEW

The relationship between life insurance consumption and the income level of citizens in the related market demonstrates mixed results in single-country or cross-country studies. According to Samir (2014), most Japanese and European citizens regard life insurance as a necessity that protects almost all their valuable possessions against future loss, including the impact of uncertain health issues and financial catastrophe. Using GDP per capita as a proxy for income, the result suggests that life insurance consumption rises with income levels. This could be because individual consumption and human capital traditionally rise in tandem with income, leading to a high demand for insurance to protect their future earnings and the expected consumption of their beneficiaries (Lee et al., 2018). Beck and Webb (2003) posited that life insurance could be considered a luxury product because, as a person's income increases, they will spend a greater proportion of their income on investment-linked life insurance products. The analysis indicates that the income elasticity of demand for life insurance in Mexico is significantly higher than in the United States (Truett & Truett, 1990). Consequently, this study is motivated to estimate to what extent life insurance consumption changes in response to changes in income levels among Asia's people. This paper also attempts to identify the relationship between other variables and life insurance consumption across Asia's populations.

The socio-economic conditions of a country's citizens also have a significant impact on life insurance consumption, as has been extensively discussed in numerous theoretical and empirical analyses. Many studies have found a link between general and life insurance and socioeconomic factors (Ajan, 2007; Akhter, Pappas, & Khan, 2017; Alhassan & Biekpe, 2016; Beck & Webb, 2003; Chang & Lee, 2012; Dragos, 2014; Kjosevski, 2012; Lee et al., 2018; Nesterova, 2008; Truett & Truett, 1990; Yaari, 1965; and Yuan & Jiang, 2015). The most commonly used social and economic determinants of life insurance consumption in the literature are income level, urbanization, dependency ratio, life expectancy, and education level. Yaari (1965) pioneered the prominent theoretical research of the impact of

[2] The income elasticity of demand in economics refers to the responsiveness of the quantity demanded for a product or service to changes in consumer income. The income elasticity of demand for necessities ranges from zero to one, indicating that they are relatively less elastic or inelastic. This means that rises in consumer consumption will be proportionately less in response to rises in income. A staple, such as rice or bread, could be regarded as a necessity (Agarwal, 2019).

life insurance consumption on consumers' behavior to secure their unpredictable lifetime and leave a bequest for their dependents by investing a portion of their monthly income. Ward and Zurbruegg (2002)'s empirical results show a positive impact of life expectancy on life insurance consumption. By using provincial data from 2000 to 2012, Yuan and Jiang (2015) examined the factors influencing demand for overall insurance, life insurance, and non-life insurance in China. Education, social security pensions, and both children and elderly dependency ratios have the greatest impact on life insurance demand, while inflation has the most significant impact on non-life insurance demand. Dragos (2014) discovered that urbanization has a significant impact on life insurance consumption in Asia but not in Europe.

Moreover, there are many studies on the relationship between insurance market development (both life and non-life insurance) and economic growth (Beck & Webb, 2003; Chen, Lee, & Lee, 2011; Ghosh, 2013; Haiss & Sümegi, 2008; Ouedraogo, Guerineau, & Sawadogo, 2016; Peleckienė, Peleckis, Dudzevičiūtė, & K Peleckis, 2019; Pradhan, Dash, Maradana, Jayakumar, & Gaurav, 2017; Sawadogo, Guerineau, & Ouedraogo, 2018; and Ul Din, Abu-Bakar, & Regupathi, 2017). Life insurance development has a positive effect on economic growth per capita in a data set of 86 developing countries between 1996 and 2011 (Sawadogo et al., 2018). When measured by net written premiums and life insurance density, Ul Din et al. (2017) revealed that life insurance has a powerfully positive relationship with economic growth in developed countries and is significant in developing countries when measured by a life insurance penetration proxy.

2.1. Originality

The contributions of this research are first, an emphasis on identifying whether people in Asian countries consider life insurance to be a necessity or a luxury product, and second, the impact of the life insurance market on economic growth by breaking it down into before and after the global financial crisis that exploded in 2008. Some Asian countries have strong economic ties with the United States, and the state of the United States economy, including the 2007/2008 financial crisis[3], has a significant impact on the financial sectors of those countries. This necessitates comparative studies of two epochs. Academic research on the evolution of life insurance and evidence of the relationship between life insurance and economic growth in Asia is lacking, particularly in the areas of in-depth, cross-country case studies. The motivation for this paper is to examine the truly diverse socioeconomic development of Asian countries. The sample of Asian countries consists of heterogeneous income level specifications such as low-income countries (LIC), low middle-income countries (LMC), upper-middle-income countries (UMC), and high-income countries (HIC).

3. DATA AND METHODOLOGY

3.1. Data Sources

Data on Asian economies from 2001 to 2016 were obtained from public online sources, namely the World Bank's databases and the Sigma World Insurance Report. This study focuses solely on the 22 Asian countries that were reported in the Sigma World Insurance Report (see Table A1) due to the scarcity of time-series data on life insurance and financial development indicators for most Asian countries. Most of the data are only widely available for developed economies, not for the emerging economies that make up most of the Asian continent. The variables used in both Traditional Panel and Dynamic GMM models are listed in Table A2.

3.2. Panel Data Model

The panel data approach was used to address the first objective of this study, namely, estimating how much life insurance consumption varies as income levels change. Panel data estimation is primarily regarded as an efficient inferential method for dealing with a combination of cross-sectional (e.g., individuals, countries, states, companies,

[3] The adverse consequences of the 2008 global financial crisis were not limited to the banking sector, but rather pervaded the entire economy (Akhter et al., 2017).

etc.) and time-series data. Panel data allow us to control variables that are difficult to perceive or measure, like variables that change over time but not across countries (Gujarati & Porter, 2009).

A general specification model for the income elasticity of life insurance can be expressed as:

$$LID_i = \alpha_i GDP_i^{\beta} e_i \quad (1)$$

To avoid statistical issues when estimating the model, Equation 1 is expanded to include other socioeconomic factors that are likely to influence life insurance consumption.

$$LID_i = \alpha_i GDP_i^{\beta 1} URB_i^{\beta 2} GCE_i^{\beta 3} LE_i^{\beta 4} INF_i^{\beta 5} POP_i^{\beta 6} DR_i^{\beta 7} u_i \quad (2)$$

To stabilize the value of time-series data, Equation 2 is modified using the natural logarithm transformation as follows:

$$lnLID_{it} = \alpha_i + \beta_1 lnGDP_{it} + \beta_2 lnURB_{it} + \beta_3 lnGCE_{it} + \beta_4 lnLE + \beta_5 lnINF_{it} + \beta_6 lnPOP_{it} + \beta_7 lnDR_{it} + u_{it} \quad (3)$$

$$u_{it} = \mu_i + v_{it} \quad (4)$$

where *ln* is the natural log, *LID* is life insurance density as a dependent variable, *GDP* is gross domestic product per capita as an explanatory variable, and *URB* is urbanization, *GCE* is government consumption expenditure, *LE* is life expectancy at birth rate, *INF* is inflation rate, *POP* is population, and *DR* is dependency ratio as the control variables. α_i and β_1 - β_7 are intercept and the coefficients for any independent variables, respectively. Equation 4 indicates the composite error term u_{it} that consists of two components. μ_i denotes an unobserved individual country-specific effect, and the combined time-series and cross-section error component is denoted by idiosyncratic disturbances v_{it}.

Including these socio-economic variables in the model is consistent with previous research studies as, theoretically, these variables are correlated with per capita income. Therefore, excluding these factors will result in model bias and other statistical problems. The subscripts *i* and *t* refer to the cross-sectional observation of countries ($i = 1, 2, ..., 22$) and the time-series dimension ($t = 2001, 2002, \ldots, 2016$) respectively. A Breusch and Pagan Lagrangian Multiplier (LM) test was used to test the existence of random effects underlying the pooled OLS model to assist in choosing between pooled ordinary least squares (OLS) or random-effects models. The pooled OLS model assumes there is no correlation between the error terms and there are no differences between the cross-sectional and time-series. The Hausman test was employed to identify better estimations between the random and fixed-effect models.

3.3. Dynamic GMM Model

The dynamic generalized method of moments (GMM) method by Arellano and Bond (1991) was also applied in this study for several reasons. First, the explanatory variables are assumed to be endogenous as the causal relationship may flow in both directions and cause the regressors to be correlated with the error term.

Thus, the dynamic panel method allows for analyzing the dynamic relationship between the variables under consideration in the dynamic model. The GMM estimation method, in particular, helps to address the potential econometric issues of regressor endogeneity and measurement errors associated with dynamic panel models (Bond, Hoeffler, & Temple, 2001).

Second, the approach can capture the dynamic relationship between variables when the lag value of the dependent variable is present on the right side of Equation 5, which would trigger autocorrelation. Third, the presence of a heteroscedasticity problem in time-invariant country characteristics of fixed effects such as demographic conditions is correlated with an independent variable, namely a life insurance premium. Finally, this research's panel dataset

contains several cross-sectional countries (N = 22) that are larger than the time dimension (t = 16 years). Given the small sample size, a GMM model is deemed appropriate and valid (Ibrahim & Law, 2014).

Thus, using the GMM estimator and modified dynamic panel data model, the following equation can be demonstrated:

$$Growth_{it} = \alpha + \gamma Growth_{it-1} + \varphi X'^{S}{}_{it} + \delta_i + \varepsilon_{it} \quad (5)$$

where subscripts i and t represent an individual country and time period disaggregated into two time frames, namely (1) the period before and during the climax of the global financial crisis (2001 – 2008), and (2) the year after the financial crisis occurred, respectively. $Growth_{it}$ refers to economic growth measured by the GDP of a country. The lagged value of the dependent variable, *Growth*, is inserted into the right side of the equation and indicated as $\gamma Growth_{it-1}$.

Accordingly, γ is predicted to be positive. α is constant, φ is the coefficient of explanatory variables (X'^{S}), δ_i indicates unobserved country-specific terms, and ε_{it} denotes error terms. This study examines the dynamic relationship between growth (GDP), a life insurance premium (PV), inflation (INF), banking and stock market depth, namely broad money (M2), the stock market turnover ratio (TOR), and the domestic credit private sector (DCP) as specified in the model (6).

$$\ln GDP_{it} = \alpha + \gamma \ln GDP_{it-1} + \varphi_1 \ln PV_{it} + \varphi_2 \ln INF_{it} + \varphi_3 \ln M2_{it} + \varphi_4 \ln TOR_{it} + \varphi_5 \ln DCP_{it} + \delta_i + \varepsilon_{it} \quad (6)$$

4. EMPIRICAL RESULTS

4.1. Panel Data Analysis

Table 1 shows the estimated results of the relationship between income and life insurance consumption. The results of running and testing a static panel model Equation 3 show that the fixed effect model[4] is preferable for estimating the impact of national income per capita on life insurance consumption. Life insurance density is used as a proxy for life insurance consumption or expenditure on life insurance per citizen.

The heteroscedasticity result indicates that the null hypothesis is rejected because the p-value of 0.00 is highly significant. This indicates either the presence of a heteroscedasticity problem in the model or the model is not homoscedastic. In the fixed-effects model, the robust test was used to correct the heteroscedasticity issue (Hassan, Minato, Ishida, & Nor, 2017). The natural log transformation is also enabled to reduce the heteroscedasticity problem.

Theoretically, all the coefficient variables are expected to be positive, except for the government expenditure and inflation rate variables which are expected to be negative in accordance with most previous studies. Accordingly, except for population growth, the result of the fixed effect robust test shows that all coefficient variables are significant and positively correlated to life insurance consumption. However, this negative sign is reasonable as the population indicator used is population growth rather than population size. Population growth measures the rate of change of Asia's population over time, and this is decreasing. However, as mentioned above, the primary emphasis of this analysis is the income elasticity of life insurance consumption. The GDP per capita has a positive effect on life insurance.

This finding is in line with many studies that show a positive relationship between income and life insurance consumption (Beck & Webb, 2003; Outreville, 1996; and Ward & Zurbruegg, 2000). According to the coefficient of the fixed-effect model, the value of income elasticity life insurance expenditure is inelastic, meaning a one percent increase in GDP per capita increases life insurance expenditure by 77 percent, implying that Asian citizens consider life insurance to be a necessity product.

[4] The Hausman test affirmed that the fixed effect model is suitable for this dataset.

Table 1. Estimated effect of GDP per capita on life insurance premium expenditure (LID).

Explanatory Variables/ Tests	Dependent variable: lnLID	
	REM	FEM (robust)
Constant	-50.6***	-53.6
lnGDP	0.80***	0.77***
lnURB	0.40***	0.93**
lnGCE	0.32***	0.23
lnLE	9.46***	7.83*
lnINF	0.04**	0.04**
lnPOP	-0.13***	-0.15***
lnDR	-0.15	0.23
Wald Chi^2 (7)	158***	-
R-square (overall)	0.76	0.45
F-statistics	-	65.8***
Observations, *N*	260	260
Breusch–Pagan LM test (Chi^2)	929***	
Hausman test	Chi^2 (7) = 34.3***	
Hetero (χ^2–stat)	Chi^2(20) = 156***	
Autocorrelation, F (1,19)	51.4***	

Notes: ***, **, and * denoting the p-value are significant at the 1%, 5%, and 10% level, respectively. REM = random effect model, FEM = fixed effect model, ln = natural log, LID = life insurance density, GDP = gross domestic product, URB = urbanization, GCE = government consumption expenditure, LE= life expectancy, INF = inflation, POP = population, DR = dependency ratio.

4.2. Difference and System GMM Estimation[5]

As discussed in Section 3, this study employs the GMM panel estimator, which was first presented by Holtz-Eakin, Newey, and Rosen (1988) and thereupon expanded by other researchers, for example (Arellano & Bond, 1991). The first and second columns of Table 2 and Table 3 depict the GMM estimation results of the difference GMM estimator and system GMM estimator. Table 2 and Table 3 show the estimation results of the impact of life insurance on economic growth during the pre- and post-global financial crisis periods of 2007/2008. In the first differenced errors, the GMM models were tested for Sargan overidentifying restrictions, and the Arellano-Bond test for autocorrelation was also applied. A p-value greater than one percent for the Sargan test indicates the adopted instrument variables are valid, and the AR (2) test indicates that there is no autocorrelation in errors of order higher than one, implying that both two-period models are suitably robust for analyzing the impact of the life insurance market on economic growth. As expected, the life insurance market was positively significant in economic growth during both periods. The estimated value of lnPV is consistent with the findings of Ghosh (2013), Ul Din et al. (2017), and Sawadogo et al. (2018). However, the impact of life insurance on economic growth appeared to be relatively lower after the financial crisis. The findings demonstrated that the Asian region was affected by the United States financial crisis. The coefficient of variable life insurance premium volume in Table 2 and Table 3 shows a range between 0.23 and 0.27 before the crisis and between 0.11 and 0.12 after the crisis. This means that a one percent increase in life insurance caused an increase in economic growth from about 23 to 27 percent and from 11 to 12 percent in the pre- and post-financial crisis periods, respectively. Meanwhile, the factor domestic credit to private (DCP) is the model's only financial development indicator found to have a negatively significant contribution to life insurance activities for promoting economic growth in the region. The detailed explanation of other explanatory and control variables is beyond the scope of this work because the focus is the contribution of the life insurance market to economic growth. Thus, the drawbacks of the current study should be considered for future analysis.

[5] The difference GMM estimator and system GMM estimator are introduced by Arellano and Bond (1991) and Blundell and Bond (1998) respectively. In comparison with the difference GMM, the system GMM incorporates more instruments and enhances estimation efficiency (Roodman, 2009).

Table 2. GMM estimation of pre- and during the global financial crisis for the period 2001 – 2008.

Explanatory Variables/Tests	Dependent variable: lnGDP	
	Difference GMM	System GMM
lag(lnGDP)	0.68***	0.76***
lnPV	0.27***	0.23***
lnINF	0.02**	0.02
lnM2	-0.11	-0.11
lnTOR	0.02**	0.02
lnDCP	-0.30**	-0.31***
Specification tests:		
AR (1)	-1.68 (0.09)	-
AR (2)	-0.06(0.96)	-
Sargan test of overidentifying restrictions	-	Chi² (19) = 21.1 (0.33)

Notes: ln = natural log, GDP = Gross Domestic Product, PV = premium volume, INF = inflation, M2 = broad money, TOR= turnover ratio, DCP = domestic credit to private. ** and *** denote significance at 5% and 1% levels, respectively. The value in parentheses indicates the probability of the autocorrelation test. AR (1) and AR (2) denote the Arellano-Bond test for first and second-order autocorrelation in first differences.

Table 3. GMM estimation of post the global financial crisis for the period 2009 – 2016.

Explanatory Variables/Tests	Dependent variable: lnGDP	
	Difference GMM	System GMM
lag(lnGDP)	0.52***	0.56***
lnPV	0.12***	0.11**
lnINF	0.00	0.02
lnM2	-0.09	-0.06
lnTOR	-0.00	0.01
lnDCP	-0.20*	-0.18**
Specification tests:		
AR (1)	1.1 (0.27)	-
AR (2)	0.00 (0.99)	-
Sargan test of overidentifying restrictions	-	Chi² (19) = 26.2 (0.13)

Notes: ln = natural log, GDP = Gross Domestic Product, PV = premium volume, INF = inflation, M2 = broad money, TOR= turnover ratio, DCP = domestic credit to private. *; ** and *** denote significance at 10%, 5% and 1% levels, respectively. The value in parentheses indicate the probability of the autocorrelation test. AR (1) and AR (2) denote the Arellano-Bond test for first and second-order autocorrelation in first differences.

5. CONCLUSION

Despite a surge in the consumption of insurance products like savings and investment-linked insurance, most Asian citizens, excluding the developed economies of East Asian nations, are still comparatively unaware of life insurance products when compared with people in Europe and other Western countries. This study has attempted to investigate the contribution of life insurance consumption and its market to communities and economic development in Asian countries. The study was conducted between 2001 and 2016 both before and after the 2007/2008 global financial crisis. First, this paper investigated whether life insurance is a necessity or a luxury product for the Asian population. The o determinants of life insurance consumption have also been included in the model because they might be correlated with the explanatory variable, namely national per capita income. It is crucial to acknowledge and fully comprehend that life insurance is a necessity investment product for dealing with future uncertain health conditions and financial catastrophe after the death of a breadwinner. The income elasticities life insurance consumption analysis revealed that life insurance was inelastic in 22 Asian countries, implying that life insurance products are a necessity for their citizens.

Financial intermediaries like banks, stock markets, and insurance sectors are vital to a country's economic growth. By incorporating financial development indicators, this paper also sought to assess the influence of life insurance markets on economic growth both before and after the 2008 global financial crisis. The overall findings of the life insurance growth suggest that the life insurance sector is critical to the region's economic growth. Despite the impact of the financial crisis on the insurance sector being less pronounced than on the banking sector (Marović, Njegomir, & Maksimović, 2010), the findings showed that the region was hard hit by the crisis through the life insurance sector, which lost more than ten percent of its market value to the economy.

To summarize, life insurance has proved to be a necessity product among Asian societies and is a key driver in promoting growth in the region. These societies have a clear grasp on avoiding bankruptcy because they spend a portion of their monthly income on consuming this long-term investment. Along with its contributions to the financial sector, the insurance industry will be at the heart of the social and healthcare systems. However, a challenge for the insurance industry is identifying the reasons behind a low insurance market in some areas in the region, despite their societies acknowledging that life insurance is a necessity.

6. SUGGESTIONS

Amid the world economic turmoil, it is critical to keep each country's situation in perspective and develop strategic plans to capitalize on exciting business opportunities in each Asian country. This paper is, therefore, to serve as a valuable reference for academics, corporate entities, and government sectors for future studies to solve the current research gap and drawbacks, and it offers some suggestions for consideration in the below aspects. First, future studies may include individual perceptions of life insurance consumption by taking several factors into account, like customer service quality. Customer service is a critical factor that influences the take-up rate of life insurance consumption in Japan. Convincing people to engage in insurance activities is a significant barrier that the insurance market, particularly family takaful, faces. High-quality service and reasonable product prices are central concepts in Japanese culture, and they should be applied in most emerging Asian markets, including Malaysia, Thailand, Indonesia, and other Asian countries (Power, 2014).

Second, with the availability of primary and secondary data sources, a comparative study of countries with comparable levels of social and economic development can be conducted. The social environments in Indonesia, Brunei, and Malaysia, for example, are virtually identical. Third, family takaful should be thoroughly researched in Asia, particularly in the Asia-Pacific countries with the largest Muslim populations with low insurance penetration and populations that are deemed grossly under-insured, such as Indonesia, Pakistan, and India. Nonetheless, a comparison of Muslim-populated countries revealed that Malaysia, with a Muslim population of approximately sixty percent, has a higher growth rate in the takaful industry than other Muslim countries such as Indonesia and countries in the Middle East. Therefore, despite the availability of alternative insurance choices, takaful is necessary to identify the reasons for low insurance density and penetration among Muslim countries.

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APPENDIX

Table A1. List of the 22 Asia countries.

Japan	Thailand	Bangladesh	Singapore	Saudi Arabia
Malaysia	Indonesia	Pakistan	Kuwait	China
Republic of Korea	Israel	Iran	Oman	
India	Philippines	Lebanon	Vietnam	
Hong Kong	United Arab Emirates	Sri Lanka	Jordan	

Table A2. Definition of variables and data sources.

Variables	Descriptions	Sources
Life Insurance Indicators		
PV	Life insurance premium volume in USD (millions)	World Insurance Sigma, Swiss Re Institute
LID	Life insurance density: premiums per capita in USD	
PNT	Life insurance penetration: premiums in % of GDP	
Socioeconomic Indicators		
GDP	National income per capita	World Development Index, World Bank
URB	Urbanization refers to the number of citizens in selected countries living in urban area	
GCE	General government expenditure	
POP	Population annual growth	
LE	Life expectancy at birth rate as a proxy of human capital	
INF	Inflation rate calculated using a country's annual consumer price index serves as a proxy for macroeconomic stability.	
DR	Dependency ratio of young age (0-14) per 100 people ages 15-64	
Financial Development Indicators		
M2	Broad money (% of GDP) used as a proxy for the size of the banking activities (Pradhan, Arvin, Norman, Nair, & Hall, 2015)	
TOR	Stocks traded, turnover ratio of domestic shares (%)	
DCP	Domestic credit to the private sector by banks (% of GDP)	