

# INSURANCE MARKET DEVELOPMENT: AN EMPIRICAL STUDY OF AFRICAN COUNTRIES

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## Abstract

The insurance industry plays a very crucial role in an economy by fostering intermediation and by its mechanism of risk bearing. As such it could be argued that the insurance industry fosters economic growth. In this article we analyse the global insurance market development trends, particularly focusing on Africa. Our sample comprise of the 10 African countries namely—South Africa, Angola, Nigeria, Kenya, Mauritius, Namibia, Algeria, Tunisia, Morocco and Egypt. We employ three insurance market development metrics namely; premium volumes, insurance density and insurance penetrations ratios to establish trends in the level of development of global insurance markets. Our results document that the African countries (excluding South Africa) have the least developed insurance markets. For most of the countries in our sample, the non-life insurance industry dominates the life-insurance industry. As such, it is imperative that their respective governments put in place measures that will grow their economies in order to stimulate the development of insurance markets in Africa.

**Keywords:** Insurance Market Development, Life Insurance, Non-Life Insurance, Insurance Penetration, Insurance Density, Causal, Africa

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## 1 Introduction

The insurance industry plays a critical role in financial intermediation. Equally impelling is to highlight that the insurance sector plays a critical role to any economy by its very mechanism of either providing indemnity or that of promoting savings. Moreover its ability to pool funds in the form of premiums enables it to be an important institutional investor (Sibindi and Godi, 2014). Arguably the development of the insurance sector ultimately fosters the development of the financial markets. The attendant benefit of highly developed liquid financial markets is that they aid economic growth. This ultimately cascades into an improved socio-economic status of a country.

The following metrics demonstrate the importance of insurance. Firstly, the global insurance industry continued its recovery in 2014 as evidenced by total direct premiums written which grew by 3.7% in 2014 to USD 4 778 billion after a year of stagnation in 2013 (Swiss Re, 2015). Secondly in 2014, total insured and uninsured losses due to disasters were estimated at USD 110 billion, down from USD 138 billion in 2013 and well below the inflation adjusted 10-year average of USD 200 billion. Asia was hardest hit with losses of USD 52 billion. Further according to Swiss Re (2015), overall the insurance sector covered USD 28 billion of losses from natural catastrophes and

USD 7 billion from man-made disasters. Severe thunderstorms in the US and Europe triggered many of the insurance claims. Harsh winters in the US and Japan were the other major causes of claims. The large gap of USD 75 billion between total and insured losses highlights the lack of insurance protection, particularly in emerging markets, but also advanced markets.

The motivation behind the study of the developments of insurance markets in Africa is predicated on the existence of four schools of thought regarding the insurance-growth nexus. According to the first school of thought, there exists no causal relationship between insurance and economic growth. The second school of thought predicts a causal relationship that is demand-following, that is, according to this school of thought economic growth leads to a demand in insurance services. The third school of thought predicts that the causal relationship between the insurance sector development and economic growth is supply-leading, that is, growth in the insurance sector will spur economic growth. According to the fourth school of thought there subsists a negative causal relationship from insurance to growth. The last school of thought presumes interdependence between the insurance and growth variables. In other words, insurance development reinforces economic growth and vice-versa.

Against this backdrop, the present study seeks to investigate the development of insurance markets within the context of developing economies of Africa. Amongst the previous studies on the development of the insurance sector, Sibindi (2014a) investigated the relationship between life insurance sector development, financial development and economic growth using a single country of focus being South Africa. He found that economic growth spurs the development of the long-term insurance sector as well as influences financial development in South Africa lending credence to 'demand-following' insurance-growth hypothesis. Notwithstanding, the limitations of this study was that it did not go into detail to analyse the development of the insurance sector. Moreover it was only confined to one country. The present study seeks to investigate the state of the insurance markets in Africa. The *a priori* expectation is that the more developed the insurance markets, the more they will influence economic output.

The rest of the paper is arranged as follows. Section 2 reviews the related theoretical literature. Section 3 reviews the empirical literature. Section 4 gives an overview of the key metrics in insurance market development starting with the worldview and lastly focusing on selected African countries. Section 5 then concludes.

## **2 Review of Related Literature: Insurance Market Development and Growth Nexus**

The importance of the insurance sector is aptly articulated by Liedtke (2007). He contends that insurance has a doubly positive impact on the savings of an economy: Firstly, it increases the general savings rate (especially through the existence of life insurance products) thus creating deeper markets and allowing for more investments. Secondly, it decreases the level of unnecessary precautionary savings (savings often not available to capital markets) and stimulates investment and consumption by reducing bound (and therefore unproductive or less productive) capital. He goes on further to aver that insurance thus helps to provide more working capital to an economy because people do not have to protect themselves against the eventuality of, for example, their home being destroyed by a fire. They just have to secure adequate cover through a fire insurance policy and be ready to pay a much lower amount of money over a longer period—a totally different mechanism. This means that the money saved in the process can be allocated to other things, more in line with the preferences of the individuals and more productively. In essence the insurance mechanisms transform dormant capital into free capital.

The insurance-economic growth nexus draws from the finance- economic growth nexus theory which has evolved over the years and can be traced to the works of Schumpeter (1912) and later McKinnon (1973). The main argument by Schumpeter was the

important role played by financial institutions in spurring technological innovation and economic activities. The financial activities of savings mobilisation, project evaluation, risk monitoring and management facilitate these two functions. On the other hand McKinnon posits that financial development is stunted by restrictive government regulations, interest rate ceilings, loan subsidies and high reserve requirements for the banking sector.

It would seem that there is consensus amongst the scholars when characterising the finance-growth nexus as follows: (1) there is no causal relationship; (2) the causal relationship is demand-following, that is, economic growth leads to a demand in financial services; (3) the causal relationship is supply-leading, that is growth in the financial sector will spur economic growth; (4) negative causal relationship from finance to growth; (5) interdependence.

Hitherto extant studies have interrogated the finance-growth nexus by mainly focusing on the stock markets and the banking sector. There is scant research that focuses on the insurance sector. The importance of the insurance sector in economic development continues to seize the attention of scholars and has gained prominence over the last two decades. Amongst the early scholars who interrogated this relationship include Ward and Zurbrugg (2000). They aver that insurance is important to economic development mainly because of the following two reasons: (1) the benefits that accrue as a result of the insurance company being an agent of risk transfer and indemnification and (2) the benefits that accrue as a result of the insurer undertaking activities as a financial intermediary. Using a sample of nine OECD countries they come to the conclusion that the causal relationships between economic growth and insurance market development may well vary across countries. Further they contend that the influence of insurance market development while channelled through indemnification and financial intermediation is tempered by country specific factors.

Haiss and Sümegi (2008) are in concordance with Ward and Zurbrugg (2000) and contend that the insurance sector is important to economic growth as it can be used as a channel of risk transfer, saving and investment. In their study of 29 European countries they found out that the aggregate investment by insurance companies grew by 20% relative to gross domestic product (GDP) within the time span of 1993-2004. They go on to observe that an essential part of the contribution of insurance companies to GDP growth derives from their assets, their investment activities and the companies' setup. Thus the participation by insurance companies in the economy results in the expansion of the investment horizon, increase of market volume and improvement of market efficiency.

The latter strand of literature emphasises the investment, innovation and financial development that is spurred by the growth of the insurance sector.

According to the proponents of this view, insurance companies by providing protection could affect economic growth through the channels of marginal productivity of capital, technological innovations and saving rate (Ćurak, Lončar and Poposki, 2009). Thus insurance companies indemnify the ones who suffer a loss and stabilise the financial position of individuals and firms. They go on further to note that the possibility of transfer of risks to insurance companies induces risk adverse units to buy goods and services especially those of higher values. In this way insurance sustains demand or consumption of goods and services which encourage production, employment and finally economic growth. Ćurak, Lončar and Poposki (2009) also propound that insurance companies increase the availability of funds through their innovative products which provides protection from credit risk to other financial intermediaries. In that way financial intermediaries become more willing to lend funds for financing real investments that encourage economic growth. They also contend that insurance could affect economic growth through the saving rate channel by offering various life insurance products that combine risk protection and saving benefits. Further they argue that insurers lower transaction costs or achieve economies of scale by collecting funds from dispersed economic units who pay relatively small premiums and by allocating these amassed funds to deficit economic units in order to finance large projects.

According to Azman-Saini and Smith (2011) insurance companies as financial intermediation agents create another dimension of competition in the market for intermediated saving which is expected to promote productive efficiency. Furthermore improved financial intermediation services allow investors to hold diversified investment portfolios, which facilitate a willingness to invest in risky high-productivity projects. Moreover, insurance markets boost liquidity which facilitates a flow of funds to capital-accumulating projects, resulting in the expansion of the economy. Further they posit that insurance may also have an indirect impact on output growth via its potential impact on the development of banks and stock markets. They contend that, for example, the provision of protection services to customers against risks that might otherwise leave them unable to repay their debts may promote bank lending.

### **3 Review of the Empirical Literature**

Outreville (1990) investigated the economic significance of insurance markets in 55 developing countries. He set out to investigate empirically the relationship between property-liability insurance premiums and economic and financial development. He finds evidence in support of the supply-led growth hypothesis. That is the causal relationship runs from the insurance market to economic growth. Further he

contends that the economic significance of insurance markets is low in developing countries.

Notwithstanding the growth and influence of insurance markets on economic output in the developing countries, they have not yet attained a size or reached a stage of sophistication which characterise the insurance markets of developed economies (Couroux and Outreville, 1992). Further they also aver that insurance supervision is a fundamental requirement for the sound development of insurance activities and that insurance activities properly supervised play an important role in the process of economic growth of every country.

Ward and Zurbrugg (2000) examined the relationship between economic growth and growth in the insurance industry for nine OECD countries. Using annual data they conducted a bivariate cointegration analysis and also tested for causality by regressing the real GDP against the total real premiums in each country from 1961 to 1996. They found out that in some countries the insurance industry Granger causes economic growth, and in other countries economic growth Granger causes the insurance sector development.

Haiss and Sümegi (2008) investigated the impact of insurance investment and premiums on GDP growth in Europe. They conducted a cross-country panel data analysis for 29 European countries for the period 2005 to 2009. The insurance indicators that they used are the gross premium income as a total sum of life and non-life premium income and total investments. They separated the aggregate sample into a group of mature market economies (mainly the "old" EU-15) and the other one consisting of former transition economies mainly the new EU member states from Central and Eastern Europe (CEE). Their results showed evidence for a correlation between insurance investments and GDP growth for EU-15 countries with mature financial markets and a short-run connection between non-life expenditure and GDP for the emerging market-type CEE countries.

Arena (2008) examined the causal relationship between the insurance market activity and economic growth in both developed and developing countries. He employed insurance penetration (insurance premiums as a percentage of GDP) as a proxy for insurance market development. By using generalised method of moments (GMM) for dynamic models of panel data for 55 countries between 1976 and 2004, he found a robust evidence for this relationship. He found that both life and non-life insurance have a positive and significant causal effect on economic growth

Ćurak, Lončar and Poposki (2009) using an endogenous growth model and panel data estimation techniques examined whether life and non-life insurance individually or collectively contribute to economic growth across a sample of 10 transition European member countries for the period 1992 to 2007. The proxy that they used for insurance development is insurance penetration. Their results

indicated that insurance sector development positively and significantly promotes economic growth. The results were confirmed in terms of life, non-life insurance as well as total insurance.

Han, Li, Moshirian, et al (2010) investigated the relationship between insurance development and economic growth by employing generalised method of moments (GMM) models on a dynamic panel data set of 27 economies for the period 1994-2005. They used insurance density (premiums per capita) as a proxy for the insurance sector development. They found fairly strong evidence in favour of the hypothesis that insurance development contributes to economic growth. They find out that for the developing countries the overall insurance development, life insurance and non-life insurance development play a much important role than they do for the developed economies.

Ching, Kogid and Furuoka (2010) examined the existence of a causal relationship between the life insurance sector and economic growth in Malaysia by applying the Johansen cointegration test and the Granger causality test based on the Vector Error Correction Model (VECM). They used the total assets of the life insurance sector as an indicator for life insurance. They found out that there existed more than one cointegrating relationship between the real GDP and the total assets of life insurance sector. The study further showed that the real GDP of Malaysia was Granger caused by the total assets of Malaysian life insurance sector in the short run.

Azman-Saini and Smith (2011) investigated the impact of insurance sector development on output growth, capital accumulation and productivity improvement using data from 51 countries (both developing and developed) for the period 1981-2005. They employed the life insurance penetration ratio as a proxy for the development of insurance markets. Making use of panel data methods of analysis they find evidence that insurance sector development affects growth predominantly through productivity improvement in developed countries, while in developing countries it promotes capital accumulation.

Islam (2012) utilised the error correction mechanism to test the causal relationship between the development of non-bank financial intermediaries (NBFIs) and economic growth in Malaysia over the period 1974-2004. He used the financial assets as the proxy for NBFi development. He then conducted Granger causality tests based on the vector error correction mechanism (VECM) and found out that there is a unique long-run causality running from nonbank financial intermediaries to economic growth.

Horng, Chang and Wu (2012) tested for a dynamic relationship amongst insurance demand, financial development and economic growth in Taiwan between 1961 and 2006. They used a three variable Vector Autoregressive (VAR model) with insurance density (premiums per capita) utilised as the proxy for insurance demand. They found out that in

the short run, economic growth Granger causes insurance demand and financial development Granger causes economic growth. These results supported the 'supply-leading theory' link from financial development to economic growth and the 'demand-following theory' link from economic growth to insurance demand.

Chi-Wei, Hsu-Ling and Guochen (2013) applied the bootstrap Granger causality test to examine the relationship between insurance development and economic growth in 7 Middle Eastern countries. They used insurance density as the indicator for insurance development. They found evidence for bi-directional causality between the life insurance sector and economic growth in the higher income countries such as United Arab Emirates, Kuwait and Israel. They also found that economic growth Granger causes non-life insurance development in the low income countries of Oman, Jordan and Saudi Arabia.

Chang, Lee and Chang (2013) studied the relationship between insurance and economic growth by conducting a bootstrap panel Granger causality test using data from 10 OECD countries over the period of 1979-2006. They employed the life insurance, non-life insurance premiums and total insurance premiums as the proxies for insurance market activities. Their results were mixed and they found evidence of one-way Granger causality running from insurance activities to GDP in 5 out of OECD countries, namely France, Japan, Netherlands, Switzerland and the UK. Thus insurance is of great importance for economic growth in these countries. Secondly they found evidence of one-way Granger causality running from GDP to insurance activities in Canada (for life insurance activity), Italy (for total and life insurance activities) and the US (for total and non-life insurance activities). This result indicated that economic growth can increase demand of insurance and thus lead to the development of insurance markets. Thirdly they found out that in the US, there was two-way Granger causality (feedback) between life insurance activity and GDP lending credence to both the "supply-leading" and "demand-following" hypotheses. This result suggested that in the US the life insurance market and economic growth are both endogenous indicating that they mutually influence each other. Finally they found no causal relationship between insurance activities and GDP in Belgium (for all insurance activities), Canada (for total and non-life insurance activities), Italy (for non-life insurance activity) and Sweden (for life insurance activity). These results were consistent with the "neutrality hypothesis" for the insurance-growth nexus. This implied that insurance development and economic growth may not influence each other in those sectors and in Belgium.

Lastly, Sibindi (2014b) investigated the causal relationship between the life insurance sector, financial development and economic growth in South Africa for the period 1990 to 2012 by applying the

ARDL bounds testing procedure. He employed life insurance density as the proxy for life insurance development, real per capita growth domestic product as the proxy for economic growth and real broad money per capita as the proxy for financial development. Further he tested for cointegration amongst the variables by applying the bounds test and then proceeded to test for Granger causality based on the error correction model. His results document that the variables were cointegrated and move in tandem to each other in the long-run and also indicated that the direction of causality ran from the economy to the life insurance sector in the short-run which is consistent with the “demand-following” insurance-growth hypothesis.

#### **4 An Overview of Insurance Markets**

The global trends in insurance markets are described in this section. In the first sub-section, firstly, we review the premium volumes to measure the insurance market development. Secondly, we employ the insurance density to describe the trends in insurance market developments. Thirdly we utilise the insurance penetration rates to analyse the trends in insurance market developments. In the second subsection we consider a sample of 10 African countries and compare and contrast the level of development of their insurance markets.

##### **4.1 Global Trends in Insurance Market Development**

The total global premium volume continues to grow over the years from roughly USD 3,44 trillion in 2005 to about USD 4,77 trillion in 2014 (Refer to Table 1). North America has the highest premium volume with USD 1.19 trillion and USD 1.41 trillion registered in 2005 and 2014 respectively. Europe is ranked second with a premium volume of USD1.33 trillion and USD 1.70 trillion in 2005 and 2014 respectively. Further, Asia comes third, followed by Latin America and the Caribbean and then the Oceania. Africa has consistently contributed the least to the global total premium volume. Notwithstanding, this figure has increased marginally over the years from a paltry USD 43 billion in 2005 to a highest of roughly USD 72 billion in 2012. In percentage terms this translates to 1.44% in 2005 to a highest of 1.55% in 2012. Expectedly, there is a kink in premium volume during the period corresponding to the global financial crises of 2007 to 2009 whereby, the total premium volume of the African countries recede to 1.30% of total global premium volume in 2007 and a lowest of 1.21% of total global premium volume in 2009.

Similarly, the global life insurance premiums are on an upward trajectory. In 2005 the global life insurance premiums registered were close to USD1,99 trillion as compared to USD2,65 trillion registered in 2014 (Refer to Table 2). Europe accounts for the bulk

of life insurance premiums with close to USD807 billion and USD1 trillion premiums registered in 2005 and 2014 respectively. Asia comes second with life premiums ranging between USD 578 billion and USD892 billion between the years 2005 and 2014. North America comes third with life premium volumes of USD532 billion and USD580 in 2005 and 2014 respectively. Latin America and the Caribbean have now outpaced the Oceania in terms of development of the life insurance segment over the years. They are now fourth ranked, with life premium volumes of USD 23 billion and USD75 billion in 2005 and 2014 respectively. Comparatively the Oceania registered premiums of USD26 billion and USD58 billion for the same period under review. Africa occupies last position with the life premium volume increasing from roughly USD 29 billion in 2005 to USD 46 billion in 2014. In terms of global life insurance volume, Africa accounted for 1.73% of the global life insurance volume in 2015 up from 1.48% of the global life insurance volume in 2005.

For non-life insurance premium volume, in 2005, USD1.44 trillion premiums were recorded and this figure would grow to USD2.12 trillion in 2014 (Refer to Table 3). Of these totals Africa accounted for a meagre USD23.2 billion in 2014 up from USD12.8 billion in 2005. In percentage terms this translates to 0.89% in 2005 to 1.09% in 2014. The African market exhibits stagnation from the years 2010 to 2012 with the non-life premium volume accounting for 1.13% of the global non-life insurance volume. Comparatively, North America dominates the non-life insurance market segment with premium volumes between USD 655 billion and USD825 billion for the years 2005 and 2015 respectively. For the same period, Europe comes second with premiums of USD 525 billion and USD695 billion respectively. Asia comes third with non-life premium volumes of USD187 billion and USD425 billion in 2005 and 2014 respectively. Latin America and the Caribbean ranks fourth have recorded non-life premium volumes of USD35 billion in 2005 and USD113 billion in 2014. The Oceania comes fifth, with non-life insurance segment having recorded premium volumes of USD29 billion and USD42 billion in 2005 and 2014 respectively.

The second metric that we consider in the appraisal of insurance markets development is insurance density. This is defined as premiums per capita. The higher the metric, the more developed is the insurance market deemed. In tandem with the premium volume metric, Africa fares badly if this yardstick is employed. The total insurance density (total of life premiums and non-life premiums divided by total population) of the continent is meagre as compared to the other continents (Refer to Figure 1). For all the years under consideration it is below USD100. In other words households in Africa spend less than USD100 per year on insurance products. The world average total insurance density is close to USD700 as of the year 2014. North America leads the

pack with an insurance density of just under USD 4000 as of 2014. This is followed by the Oceania with an annual average insurance spend of USD 2600 per household in 2014. In third place is Europe with an

insurance density of close to USD 2000 as in 2014. Africa comes last with an insurance density of USD 61 as of 2014.

**Table 1.** Global Trends in Total Premiums Volume for the Period 2005 to 2014 (in millions USD)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Africa	42353	49816	53810	52625	49502	63494	69274	71350	69938	68974
North America	1187853	1253925	1330674	1344105	1249254	1275854	1342502	1398468	1391105	1405816
Latin America and Caribbean	58662	71542	89860	106804	109827	128183	154559	169666	178022	188225
Europe	1332319	1509995	1764047	1701480	1617597	1607270	1647382	1541124	1619997	1697529
Asia	765238	789250	844929	935428	1008132	1173432	1284361	1337612	1252376	1317566
Oceania	55865	58249	68889	78536	67346	82099	97627	86875	89731	100140
World	3442290	3732808	4152210	4218979	4101658	4330332	4595704	4605095	4601169	4778248
World Market Share (%)	1.23	1.33	1.30	1.25	1.21	1.47	1.51	1.55	1.52	1.44

Source: author's own compilation, data from Swiss Re (various Sigma reports)

**Table 2.** Global Trends in Life Premiums Volume for the Period 2005 to 2014 (in millions USD)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Africa	29494	35635	37661	36361	32631	43092	46903	48907	47220	45796
North America	532848	571765	624558	625032	546829	557007	595701	621571	586174	580358
Latin America and Caribbean	23269	28935	36338	41713	42544	64329	54397	72718	74731	75245
Europe	807708	936998	1114090	996122	955373	957084	940135	881398	933289	1002728
Asia	578557	590673	627758	695843	748355	866185	923988	857277	956023	892318
Oceania	26826	29182	35807	43894	33614	39435	46776	45461	47577	58103
World	1998702	2193175	2476212	2438966	2359346	2517200	2618833	2626078	2546269	2654549
World Market Share (%)	1.48	1.62	1.52	1.49	1.38	1.71	1.79	1.86	1.85	1.73

Source: author's own compilation, data from Swiss Re (various Sigma reports)

**Table 3.** Global Trends in Non-Life Premiums Volume for the Period 2005 to 2014 (in millions USD)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Africa	12860	14182	16150	16264	16872	20402	22371	22443	22718	23178
North America	655005	682159	706116	719072	702425	718847	746800	776897	804930	825457
Latin America and Caribbean	35393	42607	53522	65091	67283	73786	89230	96948	103291	112979
Europe	524611	572997	649957	705358	662224	650186	707247	659726	686708	694801
Asia	186681	198577	217171	239585	259777	307248	360373	381589	395099	425248
Oceania	29039	29067	33082	34643	33731	42664	50851	41414	42154	42036
World	1443588	1539633	1675998	1780013	1742312	1813132	1976871	1979017	2054900	2123699
World Market Share (%)	0.89	0.92	0.96	0.91	0.97	1.13	1.13	1.13	1.11	1.09

Source: author's own compilation, data from Swiss Re (various Sigma reports)

The third metric that we consider is the insurance penetration rates. Insurance penetration is defined as the ratio of insurance premiums to the gross domestic product. The higher the insurance penetration the more developed the insurance market. We consider the total insurance penetration rates (total of life insurance premiums and non life insurance premiums as a percentage of gross domestic product). Using this metric, North America dominates with the highest total insurance rates between 2005 and 2014 (Refer to Figure 2).

At its peak in 2004, the insurance penetration rate for North America was just below 9% and this has receded to 7.3% in 2014. Europe comes second with penetration rates that range between 8.4% in 2006 and 7.5% in 2014. The world average total insurance penetration rates ranges from roughly 7.5% in 2005 to 6.2% in 2014. Africa is fifth ranked in terms of total insurance penetration rates having recorded close to

5% in 2005 and this decreases to roughly 3% in 2014. Latin America and the Caribbean comes last with penetration rates of close to 2% in 2005 to roughly 3% in 2014.

#### **4.2 Trends in Insurance Market Development of Selected African Countries**

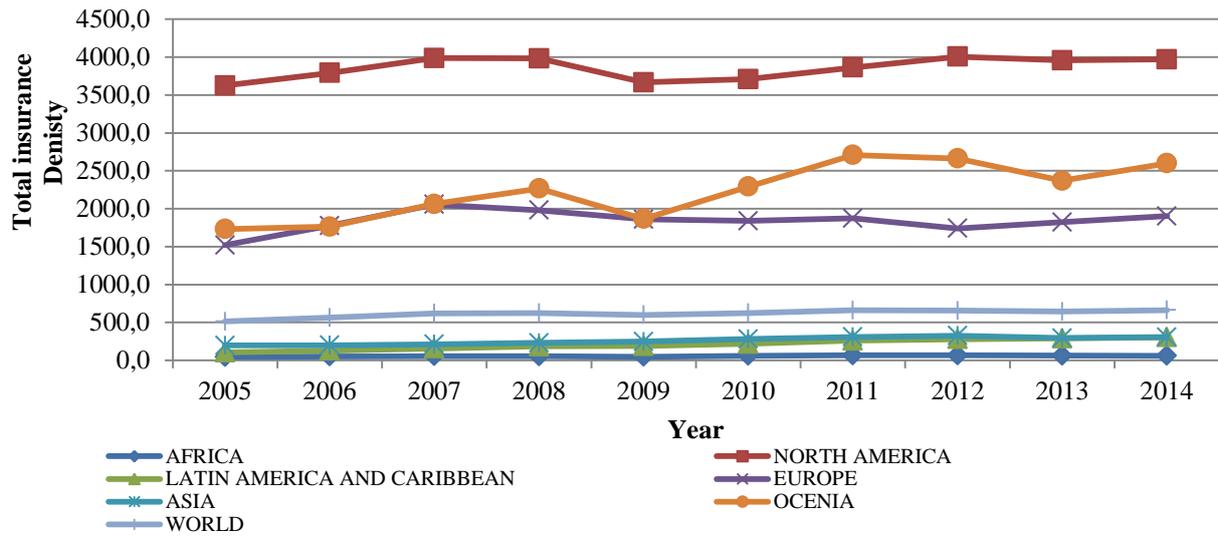
In this section we document the important insurance market development metrics for the top 10 African countries. We consider a ten year period of 2005 to 2014. Our sample of countries includes South Africa, Nigeria, Egypt, Algeria, Angola, Morocco, Tunisia, Kenya, Namibia and Mauritius.

The non-life insurance market in Africa exhibits patterns of sustained growth in premium volumes. South Africa has the most developed insurance market. This trend is evidenced in the non-life

insurance market (See Figure 3). Non-Life Premium volumes in South Africa grow from roughly USD 7.2 billion in 2005 and are highest in 2011 at levels around USD11 billion. The premium volume decreases to levels around USD 9.4 billion in 2014. All the other African countries except Namibia and South Africa exhibit growth of the non-life insurance market for the period 2005 to 2014. Morocco is second ranked with a premium volume of close to USD3 billion registered in 2014. Algeria comes third

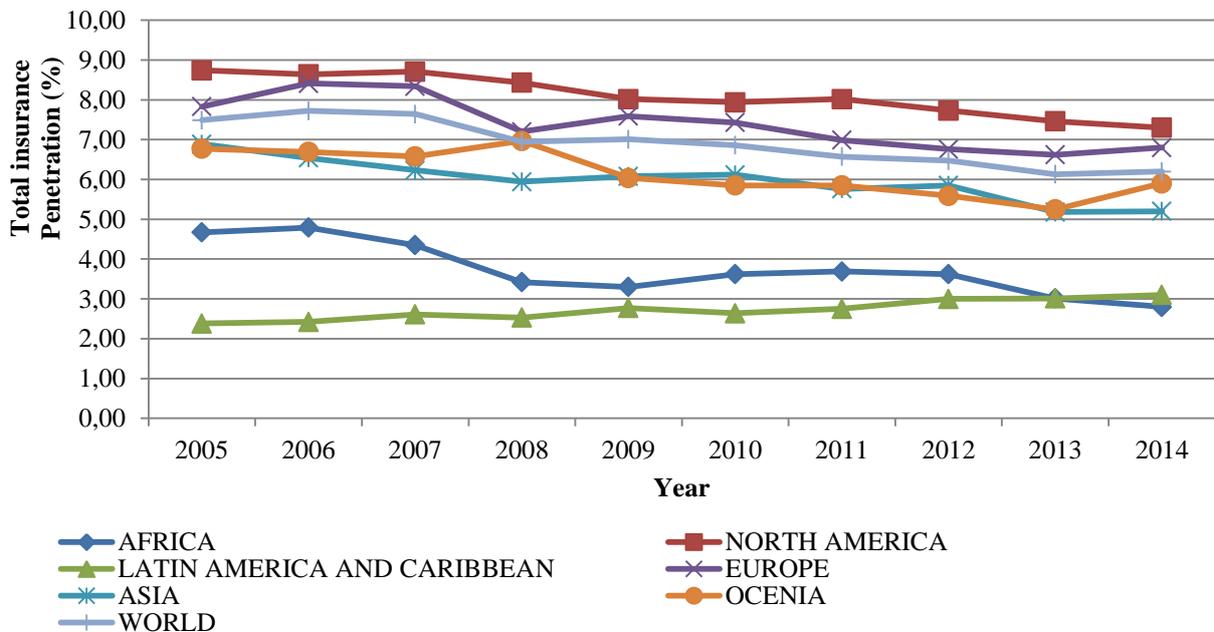
with non-life premiums of close to USD1,5 billion registered in 2014. For the same period under consideration clustered within the premium volume range of USD1,4 billion and USD1 billion are Nigeria, Egypt, Angola and Kenya. Tunisia is eighth ranked with premiums of USD750 million recorded in 2014. Namibia and Mauritius are ranked ninth and tenth respectively with non-life premium volumes of roughly US280 million and US240 million respectively recorded in 2014.

**Figure 1.** Global Trends in Total Insurance Density for the Period 2005 to 2014



Source: author's own compilation, data from Swiss Re (various Sigma reports)

**Figure 2.** Global Trends in Total Insurance Penetration for the Period 2005 to 2014



Source: author's own compilation, data from Swiss Re (various Sigma reports)

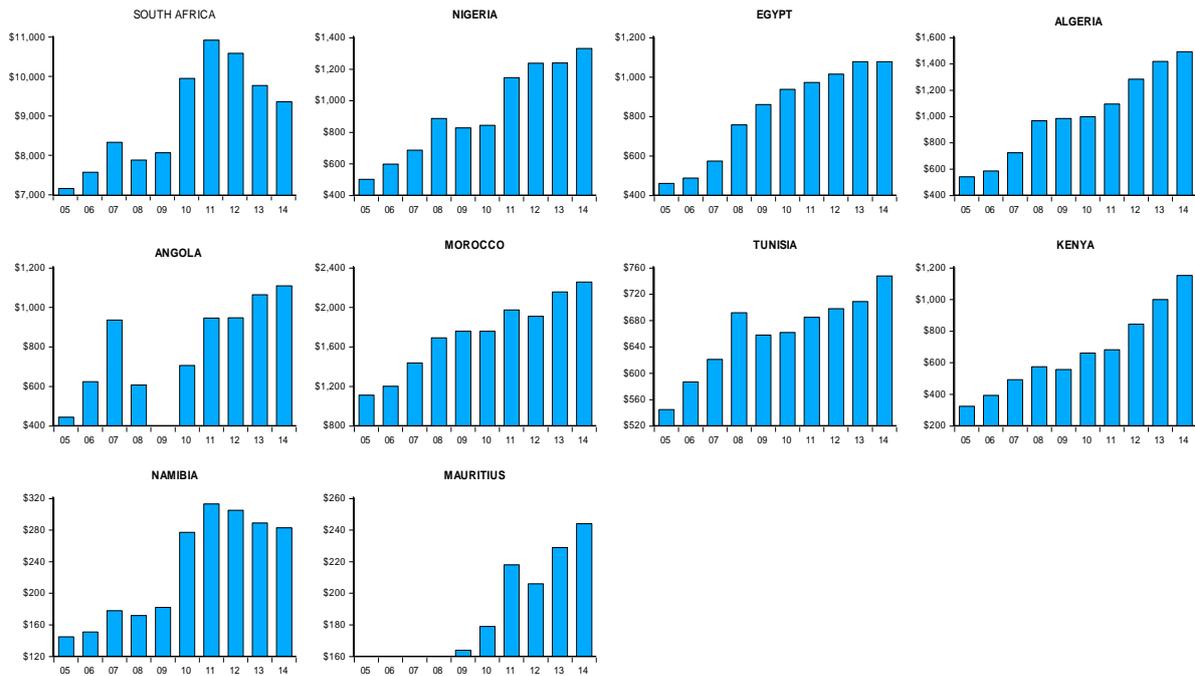
Compared to the non-life insurance segment with the exception of South Africa, Namibia and Mauritius, the life insurance market segment is the least

developed in Africa. Thus the non-life insurance dominates the life insurance segment in terms of premium volume in most of the countries in the

sample. The exception is with South Africa, Namibia and Mauritius whereby the life insurance segment dominates the non-life insurance segment in premium volumes. For instance the life premium volume recorded in South Africa is closest to USD40 billion compared to the non-life premium of roughly USD9,4 billion recorded in 2014 (Refer to Figure 4). As such South Africa has the most developed life insurance market. Comparatively, Algeria has the least

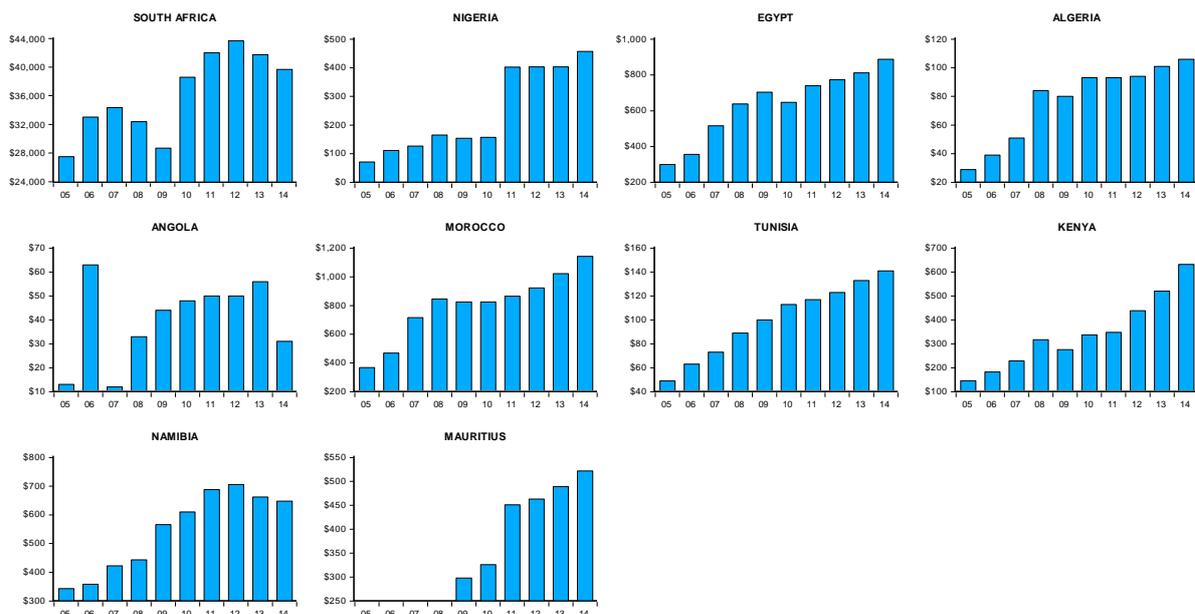
developed life insurance market. In 2014, Algeria recorded life premium volumes of a paltry USD100 million as compared to the non-life insurance sector where it is third ranked in Africa and registered a premium volume of USD1,5 billion. Notwithstanding the low level of life premiums as compared to non-life premiums, by and large the African life insurance market segment depicts signs of growth.

**Figure 3.** Trends in Non-Life Insurance premiums of African Countries (in millions of US dollars)



Source: author's own compilation, data from Swiss Re (various Sigma reports)

**Figure 4.** Trends in Life Insurance premiums of African Countries (in millions of US dollars)

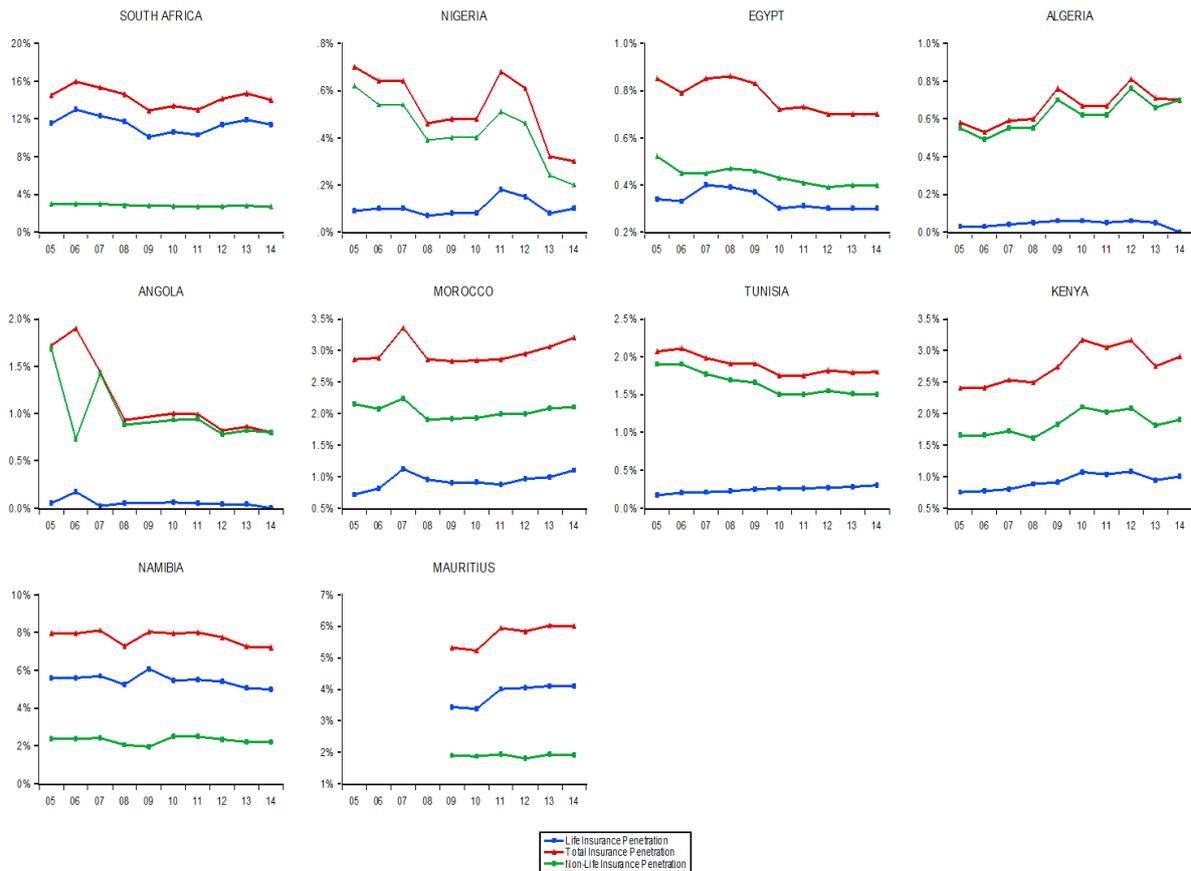


Source: author's own compilation, data from Swiss Re (various Sigma reports)

The third metric that we consider to compare the level of development of the insurance markets in our sample of African countries is the insurance penetration ratio. This metric is divided into three categories—being, the total insurance penetration ratio (which considers the insurance penetration ratio for the whole industry), non-life insurance penetration ratio and the life insurance penetration ratio. In tandem with our previous analysis when we considered premium development, South Africa comes first with the highest penetration ratios for our sample of African countries. The total insurance

penetration rate for South Africa is closest to 14% in 2014 (Refer to Figure 5). Further in the case of South Africa, Namibia and Mauritius it can be deduced that the life-insurance segments dominate the non-life insurance segments as evidenced by the trends in life insurance penetration ratio curves which are above the respective non-life penetration ratio curves. In terms of total insurance market development, the countries are ranked as in Table 4. Suffice to highlight that South Africa has the most developed insurance market, whilst Nigeria has the least developed insurance market.

Figure 5. Trends in Insurance Penetration rates of African Countries



Source: author’s own compilation, data from Swiss Re (various Sigma reports)

Table 4. The Ranking of African Countries in terms of Insurance Penetration Rates in 2014

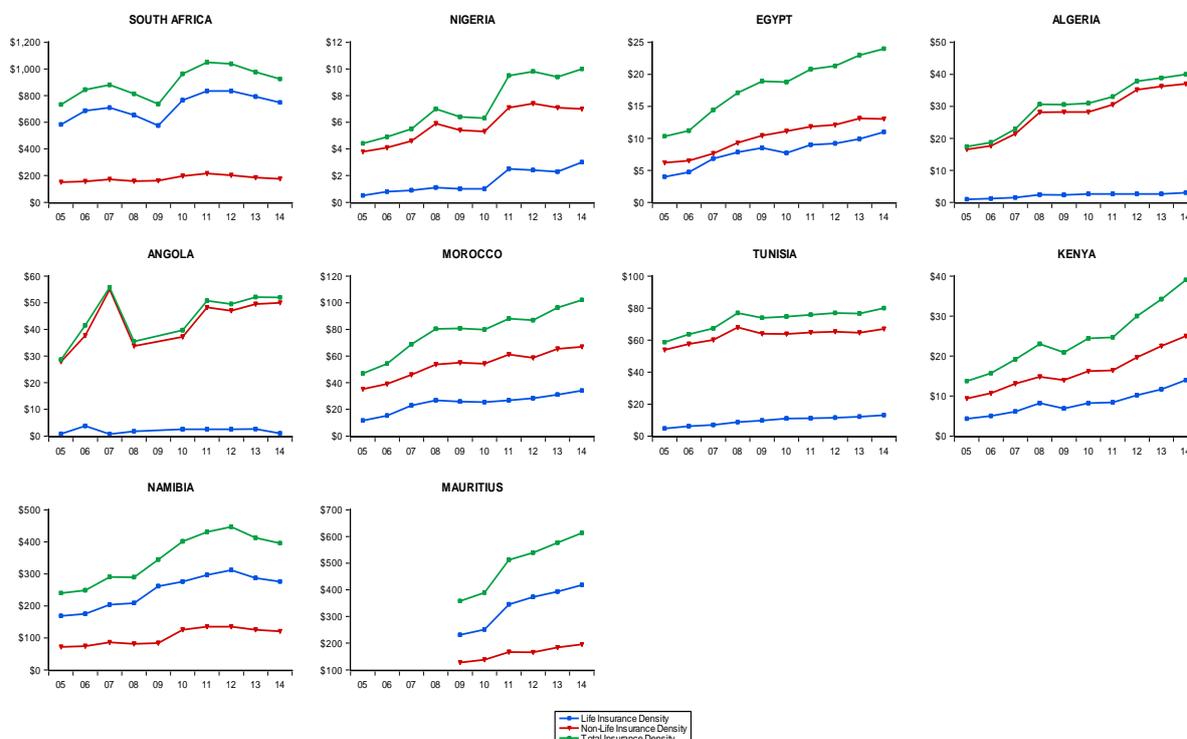
Name of Country	Total Insurance Segment Rank	Life Insurance Segment Rank	Non-Life Insurance Segment Rank
South Africa	1	1	1
Nigeria	10	8	10
Algeria	8	9	8
Angola	7	10	7
Morocco	4	4	3
Mauritius	3	3	4
Namibia	2	2	2
Tunisia	6	6	6
Kenya	5	5	5
Egypt	9	7	9

Source: author’s own compilation, data from Swiss Re (2015)

The fourth metric that we consider to appraise African insurance markets is insurance density. When employing this measure to analyse the insurance markets in Africa replicates nearly the same results as when using other metrics we have considered before (Refer to Table 5). There is sustained growth in the

insurance density variable for all countries other than South Africa and Namibia (See Figure 6). However South Africa remains ahead of the pack with a per capita spend on insurance of close to USD900. To the contrary, Nigeria is ranked last with a per capita premium spend of USD10.

**Figure 6.** Trends in Insurance Density of African Countries



Source: author's own compilation, data from Swiss Re (various Sigma reports)

**Table 5.** The Ranking of African Countries in terms of Insurance Densities in 2014

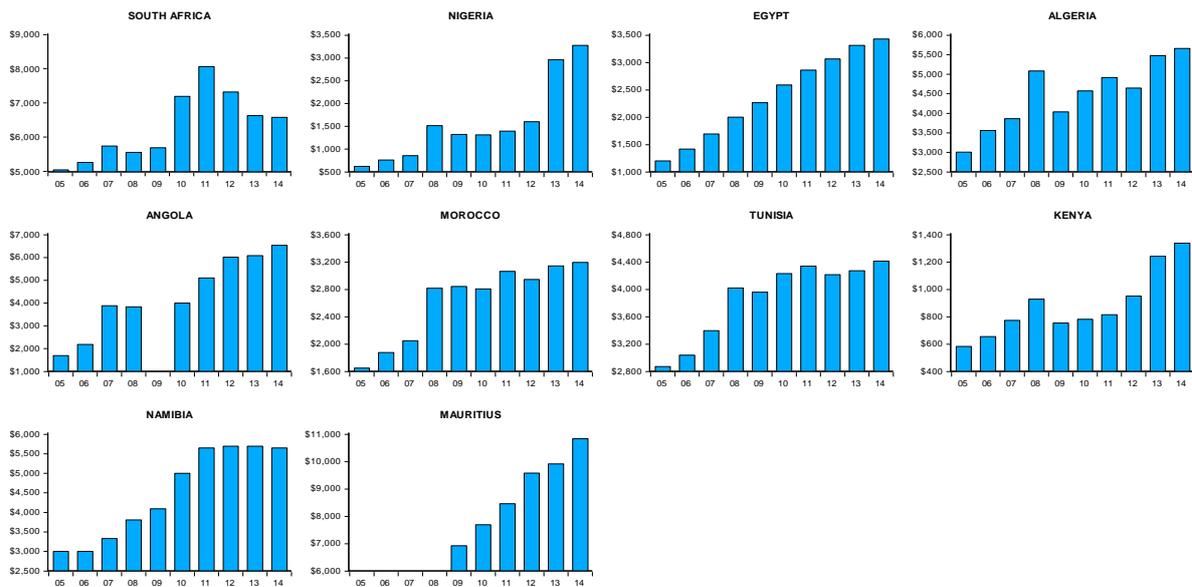
Name of Country	Total Insurance Segment Rank	Life Insurance Segment Rank	Non-Life Insurance Segment Rank
South Africa	1	1	2
Nigeria	10	9	10
Algeria	7	8	7
Angola	6	10	6
Morocco	4	4	4
Mauritius	2	2	1
Namibia	3	3	3
Tunisia	5	6	5
Kenya	8	5	8
Egypt	9	7	9

Source: author's own compilation, data from Swiss Re (2015)

Finally we consider the gross domestic per capita. The overall pattern that emerges is that the higher the gross domestic capita the higher the insurance density. As such there is comovement between the insurance density and per capita gross domestic variables. Of the sample under consideration, South Africa and Namibia have the highest per capita gross domestic products (Refer to Figure 7). Correspondingly, they also have the highest insurance densities as has been demonstrated in the

above foregoing. Moreover of all the countries in the sample, these two countries show signs of slowdown both in insurance densities and per capita gross domestic products for the years 2013 and 2014 (Refer to Figure 6 and Figure 7). For all other countries in the sample, there is a sustained increase in both the insurance density and per capita gross domestic products for the period under review. The inference that we can draw from this is that the insurance market and economic output influence each other.

Figure 7. Trends in Per Capita Gross Domestic Product of African Countries



Source: author's own compilation, data from Swiss Re (various Sigma reports)

## 5 Conclusion

In this article we have analysed the trends in the development of the global insurance markets with special emphasis placed on Africa. We employed four metrics to appraise the state of the insurance markets. These were; (1) premium volume, (2) insurance density and (3) insurance penetration ratios. First and foremost our results document that, African insurance markets, excluding South Africa are the least developed in the world. Secondly, our results corroborate our *a priori* expectations that insurance markets development and economic output influence each other. Thus, a causal relationship exists between insurance market development and economic growth. However in the absence of econometric tests (which has been beyond the scope of this study) we cannot establish the direction of causality. Suffice to highlight that, due to the less developed state of the insurance markets in Africa, we have reason to believe that the demand-following insurance-growth relationship subsists. In other words African governments are implored to pursue policies that will grow their economies in order to develop their insurance markets.

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