

THE INTERNATIONAL JOURNAL OF BUSINESS & MANAGEMENT

The Moderating Effect of Business Category on Investment Management Structure Choices among Insurance Companies in Kenya

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Abstract:

Insurance business is conducted in two broad categories namely general insurance and life insurance. A firm's business category is an important consideration in making key decisions. This paper examines the moderating effect of firm business category on investment efficiency, firm size and market influence as antecedents of the choice of the investment management structure to adopt. The study adopts a descriptive approach relying on a binary logistic regression model. The study sample consisted of forty-six (46) companies licensed to undertake insurance and reinsurance business in Kenya in 2017. Both primary and secondary data were collected. Data processing and analysis was undertaken using STATA. The study findings indicate that business category is not a statistically significant factor moderating the influence of the other predictor variables in the investment management structure choices of firms although it had the effect of amplifying or diminishing their importance. It is recommended that insurance companies must be cognizant of their business category effects but need not factor it in their decisions on the investment management structures to adopt.

Keywords: Investment management structure, insurance companies, decision theory

1. Introduction

Institutional investment management is structured in two broad structures: Internal management or Delegated management. The decision on the investment management structure to adopt is a critical decision for most institutional investors, more so, those that are under no regulatory guidance such as insurance companies in Kenya. Institutional investors take several factors into consideration when choosing their investment management structures.

Traditionally, institutional investment management was almost entirely outsourced (external/delegated investment management). This happened because the typical institutional investors have a sponsor (government or corporation) who provides current funding to meet the payment of some future liabilities. However, the sponsors never create the necessary capacity to enable these organizations to invest their assets in the financial markets on their own. Sponsors believe that the funds will be invested through investment organizations in an outsourced structure. The resultant delegation breeds a complex web of principal – agent relationships involving sponsors and funds, investment managers, consultants, administrators, accountants and auditors (Clark & Monk, 2012).

Clark and Monk (2012) argue that in-house investment management offers better and direct access to particular assets or markets compared to third party investment vehicles. This investment structure ensures that the principal-agent problems that are so pervasive in the investment management industry are avoided and agency costs minimized. The structure provides a great learning and discovery experience that boosts the organizational capabilities. The internal teams acquire new knowledge about their business. Under in-house management, the investor is likely to maximize the net-of-fee investment returns and is a more sustainable approach to investing because the investor can tailor a portfolio to meet own needs.

According to IRA (2019), the insurance industry recorded KES 214.9 billion (US \$ 2.14 billion) in Gross Premium Written in 2018, a growth 4% from 2017. The asset base of the industry was KES 635 billion (US \$ 6.35 billion) compared to KES 591 billion (5.91 billion) as at 31st December 2017. The industry's investments in financial assets stood at KES 524 billion (US \$ 5.24 billion) in 2018, slightly over 5% of Kenya's GDP. The industry is therefore a large investor in the financial markets. The investment management structures adopted by firms influences their overall performance since investment income is a main driver of profitability for these firms.

1.1. Insurance Business Category

According to Insurance Information Institute (III), generally, insurance business is conducted in two broad categories: general insurance (non-life) and life insurance. The two business categories differ in a number of ways. Gründl, Dong and Gal (2016) isolate the key differences between life and non-life insurance business. First, life insurance contracts

are relatively longer-term compared to non-life insurance policies which are usually for a term of one year or less. Secondly, there is greater uncertainty about the timing and volume of non-life insurance claim payments compared to life insurance because the latter mainly insures one event – death, the risk of which for any individual is often based on a standard mortality table. Third, the difficulty of predicting perils has led non-life business to being considered riskier than life insurance. Fourth, the potential losses from non-life insurance are more difficult to predict than for life insurance. These differences in the nature of business mean that life and non-life insurers have different operating strategies.

The differences advanced in Gründl, Dong, and Gal (2016) have implications on the companies' decisions and investment strategies. Since general insurance claims patterns are unpredictable and large, non-life insurers tend to maintain substantial liquidity, since claims may arise from the day the policy is underwritten. General insurers therefore require more liquidity to service those claims as and when they arise and must invest in short term assets. Life insurance claims, while also partly unpredictable, come in a longer time horizon relative to the receipt of premiums. Claims towards life insurers are generally better estimated enabling life insurers to invest in less liquid assets, such as long-term assets, and to follow a 'buy and hold' strategy (Gründl, Dong & Gal, 2016). These differences and other unique business aspects may be a consideration in the choice of the investment management structures of companies operating the different types of business. In this study, a company is categorized as either general or life based on the dominant business segment as measured by the gross premium income. This is because in Kenya, composite insurance arrangement is still commonplace across the industry but legal changes have been enacted to separate these entities.

MacIntosh and Scheibelhut (2012) benchmarking study of 19 large pension funds from the G20 countries found that internal management is directly linked to larger fund sizes, lower operational costs, and higher returns. The study also found a lack of diversity in boards of management as well as higher risk management concerns. Goyal and Wahal (2008) study of pension fund behavior in the US for the period 1994 to 2003 found return chasing behavior by plan sponsors when choosing investment managers for delegated investment management. Retirement plans investment practices have also been found to be greatly influenced by their governance policies. Useem and Mitchell (2000) study of US public and local authorities' retirement schemes reported that governance policies impacted investment decision and strategies. Coronado, Engen and Knight (2003) comparative study of the effects of governance structures of public and private pension schemes found that public schemes were prone to some political interference that sometimes led to a return sacrifice.

A primary data investigation by Gallagher, Gapes and Warren (2016) in a CIFR study of investment management practices in Australia superannuation market found that net returns, portfolio size, need for customization of portfolios and avoidance of agency problems were the main considerations for firms that chose to manage assets internally. Blake, Timmermann, Tonks and Wermers (2010) study of the UK pension market found that pension funds pursued higher returns in their choice of investment managers. They also found size effects where funds looked for alpha diversification by using multiple specialist managers as fund sizes grew larger. Njuguna (2011) study of pension governance in Kenya reports that regulations, leadership and membership age distribution have an impact on governance of schemes. Based on the literature this study clustered the factors that influence investment management structures into three, namely, investment efficiency, firm size and market influences. The analysis of business category moderating effect is studied with reference to these three predictor variables.

The study objective was to examine the moderating effect of business category on investment management structure choices by insurance companies in Kenya. The corresponding research hypothesis was that business category has no moderating effect on the choice of investment management structures of insurance companies in Kenya.

2. Theoretical and Conceptual Framework

2.1. Decision Theory

Decision theory is an interdisciplinary field of study to understand decision-making. It draws from mathematics, statistics, economics, psychology, management, and other fields in order to understand, improve, and predict the outcomes of decisions under particular conditions (Tang, 2006). Gilboa (2009) explains that people have been consciously coping with decision problems for at least as long as recorded history exists. However, formal studies of decision theory, particularly decision under uncertainty only emerged in the mid-17th century following the acceptance of probability theory. According to Tang (2006) a decision is making a choice of what to do and not to do, to produce a satisfactory outcome. It is a commitment to action, an irreversible allocation of resources.

To decide is to choose from sets of alternatives. Decision theory is concerned with rationality in choice. A decision problem can be expressed as a list of alternatives and a list of possible events with the corresponding consequences (OECD, 2010). Gilboa (2010) explains that the goal and purpose of decision theory may be viewed as a descriptive field aiming to help understand economic phenomena, in the service of normative economics. Tang (2006) identifies three schools of thought in decision theory: the normative, the descriptive and the prescriptive. The normative school is concerned with how people should decide with logical consistency. The descriptive school is concerned with why people decide the way they do while the prescriptive school tries to help people make better decisions or prepare people to decide.

This research applies the descriptive (positive) decision theory school of thought in order to understand why decision makers (insurance companies) decide (choose) the investment management structures that they use. Longford (2016) posits that decision makers sometimes choose different options in identical settings because they have different perspectives, priorities, or value judgments. This theory provides the overarching basis upon which the study is built. Recommendations that will be made out of this study will be buttressed in the prescriptive school of thought.

To isolate the moderating effect of business category, firm responses were analysed based on the three predictor variables. The effect of the predictor variable was noted. The moderator variable was then added into the analysis in order to find out whether it had an effect on the firm’s decisions on the choice of their investment management structures.

2.2. Conceptual Framework

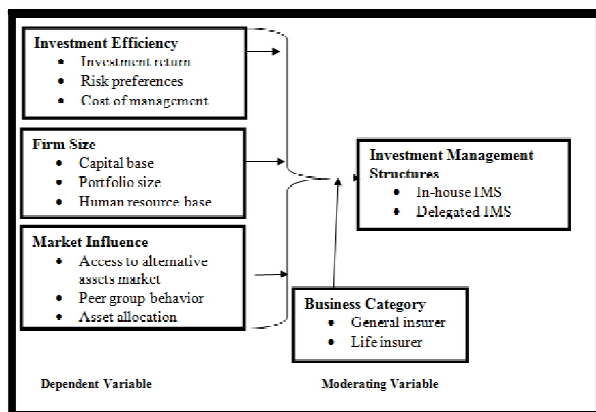


Figure 1: Conceptual Framework

The study employed a descriptive approach using a binary logistic regression model of the form:

$$Logit [\pi(IMS)] = \beta_0 + \beta_1IE + \beta_2FS + \beta_3MI + \beta_4BC + \varepsilon$$

Where;

- Π (IMS) = the probability of a firm choosing an investment management structure.
- IE = the investment efficiency factors
- FS = the firm size factors
- MI = the market influence
- BC = the business category
- β₀ = the intercept representing the ‘baseline’ event rate.
- β₁ = the odds ratio for investment efficiency effect
- β₂ = the odds ratio for firm size effect
- β₃ = the odds ratio for market dynamics
- β₄β₄ = the odds ratio for business category
- ε₀ = the error term

The population for this study was forty-six (46) companies licensed to undertake insurance and reinsurance business in Kenya as at 31st December 2017 (IRA, 2018). Both Primary and secondary data were collected. Data analysis was done using STATA following the odds ratio approach to interpretation of model output. The response rate was 83% translating into 38 companies.

3. Results and Discussion

The binary logistic regression model was run twice. The first run was to find out the effect of each predictor variable on the decision outcome. The second run included the business category as the moderator variable. Since the objective of this paper is to reveal the moderating effect of business category, detailed discussion of results will be restricted to the second run of the model. The model was run in STATA to find out how the odds ratio of the original model varied as a result of the inclusion of the moderator variable as well as how the moderator variable independently predicted the odds of an outcome. The results of the revised model are presented in Table 1.

Logistic Regression.			Number of obs = 38			
					LR chi ² (4) = 16.46	
					Prob> Chi ² = 0.0057	
					Pseudo R ² = 0.3370	

A1	Odds Ratio	Std. Err.	z	P> z	[95% C.I.]}	

Investment Efficiency	1.3186	0.3255	-1.120	0.043	0.0429	2.3604
Firm Size	1.1015	2.0634	0.760	0.049	0.3067	4.3975
Market Dynamics	1.1592	0.1351	-2.170	0.030	0.0302	1.8397
Business Category	0.8563	0.8873	-0.150	0.881	0.1123	6.5262

Table 1: Logistic Regression Model Results

Business category was built into the model as a categorical variable where general business was dummy coded as 0 and life business as 1. As the results in Table 1 show, business category is not a significant factor in predicting the investment management structure of insurance firms in Kenya ($P > |z| = 0.881 > 0.05$). This means that it does not improve the predictive power of the original model. However, it moderates the odds ratios of the other predictors in different ways. The model log likelihood, Pseudo R^2 and LR χ^2 remained unchanged.

On the overall model, the results indicate that the three predictor variables are significant factors influencing investment management structure choice. The model had a $\chi^2 = 16.46$, $p > \chi^2 = 0.0057$. This compares with the original model that had $\chi^2 = 16.43$, $p > \chi^2 = 0.0025$. The pseudo $R^2 = 0.3370$ compared to pseudo $R^2 = 0.3366$ in the original model. These results indicate that the overall model is still well fitted and the predictor variables explanatory power is maintained. The odds ratios for each of the predictor variables changed. The three main predictor variables retained their positive and significant ($p < 0.05$) odds ratios. The moderating variable had a negative odds ratio that was also not significant at the 5% level of significance.

Investment efficiency had the highest positive odds ratio in the moderated model of 1.3186 representing an increase from 1.1243 in the original model. The odds ratio was significant at the 5% level of significance ($P > |z| = 0.043$) meaning that based on investment efficiency considerations, a firm was 31.86% more likely to choose delegation over in-house management if it was a life insurance company compared to being a general insurance company. This means that when the business category is built into the model, investment efficiency becomes a more important factor influencing life insurance companies to delegate.

Market influence odds ratio increased from 1.0500 to 1.1592 which was significant at 5% level of significance ($P > |z| = 0.030$) meaning that a life insurance firm was 15.92% more likely to adopt delegation over in-house management. This implies that life insurance companies are more prone to peer influences compared to general insurance companies.

Firm size odds ratio declined from 1.4824 to 1.1015 which was significant at the 5% level of significance ($P > |z| = 0.049$). This means that large life insurance firms are 10.15% more likely to delegate compared internal management. There is a decrease in odds of large life firm's delegation choices which means that life insurance companies that have large portfolios and capital bases are less likely to delegate their investment management activities compared to general insurance companies.

The moderating variable had an odds ratio of 0.8563 which was not significant at 5% level of significance ($p > |z| = 0.881$). This means that the odds of a firm choosing delegation over in-house management declined by 14.37% for life companies compared to general insurance companies. Business category was not a statistically significant factor affecting investment management structure decisions.

There are significant differences in investment strategies adopted by general and life insurance businesses based on their unique nature of claims experiences (Gründl, Dong & Gal, 2016). Whether a firm is primarily in general insurance business or life insurance business has implications on how it manages its investment assets because of the liquidity needs of the two types of businesses.

Business category was not a significant determinant of firms' investment management structures. However, it magnified the influence of investment efficiency on investment management structure choice. The odds ratio for investment efficiency increased by 17.3% from 1.1243 to 1.3186. This magnification of the effect of investment efficiency on investment management structure choice can be interpreted to mean that the chances of a firm delegating its investment management activities is greatly influenced by investment efficiency if a firm is a life insurer compared to if a firm is a general insurer.

Investment efficiency as measured by the need to achieve higher returns, becomes a critical focus for life insurance because these firms receive periodic premium deposits in consideration for a sum assured at maturity of the policy. Life assurance policies guarantee amounts that are many times higher than the premiums charged and therefore the insurer must ensure they generate an adequate return on investment to be able to honour the maturity payments. As a result of this pressure to achieve high returns, life assurance firms are more likely to look for expert money managers who are in most cases under the employment of investment management firms. Delegation becomes a necessity for these firms. Risk reduction is also a greater consideration for life insurers for simple reason that the death risk underwritten is largely indeterminate. When the primary insurance risk is coupled with investment risks, it means that firms have to develop mechanisms that ensure that they achieve as much risk reduction as possible. One way this is possible is through adopting investment management delegation with clear risk budgeting to guide the external managers. Reduction in the cost of investment management is the other measure of efficiency. Life insurers are less sensitive to cost management than general insurers due to their longer investment horizons. As a result, they are more likely to adopt delegation because in long run the investment management costs are compensated with higher returns.

The moderating variable also had the effect of amplifying the influence of market influence on the investment management structure choice. The odds ratio for market influence increased by 10.4% from 1.0500 to 1.1592. This means that the odds of a firm delegating its investment management activities increases if a firm is a life insurance company compared to if it is a general insurer. This has a number of related interpretations as detailed herein.

The need to achieve greater access to alternative asset classes is of great importance to life companies because these firms are high return seekers with a longer investment horizon. Most alternative assets have a long-term investment maturity with promise of higher returns than the traditional investment asset classes. Urwin, Breban, Hodgson and Hunt (2001) explain that alternative assets provide returns above equities and /or risks below equities. They also serve as a powerful hedge against inflation. For these reasons, life insurers put heavy emphasis on access to these alternative assets for diversification and return enhancement benefits. As Gallagher, Gapes and Warren (2016) argue, it is easier to access alternative assets through leveraging on external investment management capabilities.

On peer influence, life insurance companies face significantly higher completion compared to general insurers. This is because life companies declare and make public announcements on the rates of return, they are offering particularly for investment linked products. Comparisons among peers may therefore influence firms' actions. This aspect of market dynamics is therefore magnified for life insurers compared to general insurers who generally have less public information sharing. The asset allocations of life insurers are generally more skewed to long term and higher risk assets such as private equities and unquoted equities. To achieve the high returns that these firms desire while keeping risk exposure low means that firms must get the best possible external advice.

Firm size odds ratio shrank when the moderator was introduced into the analysis. The odds ratio for firm size decreased by 34.6% from 1.4824 to 1.1015. This relatively high decrease in the odds of a firm delegating compared to in house management can be interpreted to mean that as firm size increases, life insurance firms are less likely to delegate their portfolios when compared to general insurers. Life insurance companies controlled the largest portfolios in the industry. While more of these firms were adopting delegation, a good proportion of them were also managing assets internally. At the same time, more general insurance companies were managing their assets internally as opposed to delegation.

Life insurers with a large capital base are more likely to manage their assets internally because of the expected benefits of tailoring portfolios. This supports the assertion by Gallagher, Gapes and Warren (2016) that larger capital base confers the benefits of scale that internal management can leverage on. It allows firms to flexibly tailor their portfolios to meet their specific investment objectives. Human resource base suggests that as more human resources are deployed into a life insurance company, then part of those skills are channeled to internal management of portfolios.

From the foregoing results, it is evident that indeed business category moderates the effect of the predictor variables on the dependent variables. However, it is important to confirm whether the moderating effect of business category is significant. This was done by testing the null hypothesis that business category has no moderating effect on the investment management structure choices of insurance companies in Kenya. The Wald statistic output for this null hypothesis was 0.02 and $p > \chi^2 = 0.631$. Based on the Wald statistic decision rule, at the 5% level of significance we fail to reject the null hypothesis because $p > \chi^2 > 0.05$ and conclude that business category does not significantly moderate the investment management structure choices of insurance companies.

4. Summary, Conclusion and Recommendations

Majority of the respondents were general insurance companies. The overall finding was that business category is not a statistically significant factor moderating the influence of other predictor variables in the investment management structure choices of firms. The odds of a firm choosing delegation over in-house management declined by 14.4% for life companies compared to general companies. While not statistically significant, business category modified how the predictor variables affected the IMS outcomes by amplifying or diminishing the interactions.

Investment efficiency effect were magnified so that a life insurance firm was more likely to delegate in pursuit of high investment returns, risk reduction and cost cutting. Firm size effect was diminished in that a life insurance firm was less likely to delegate compared to a general insurance company as firm sizes increased. This means that life insurers with large portfolios and capital base were more likely to manage their assets internally. Market influence was magnified in that a life insurance firm was more likely to adopt delegation over in-house management compared to a general insurance company as a result of peer influences, need to access to alternative assets and their asset allocations.

Business category moderates the interaction of various forces in determining the investment management structure choices of insurance companies. It magnifies the importance of investment efficiency and market influences while dampening the effect of firm size. These moderating effects of business category leads to the conclusion that investment efficiency and market influences are important drivers of investment management structure choice with a positive influence towards delegation. Firm size is an important consideration in favour of delegation but its effect is lower for life insurers.

Business category as a predictor of investment management structure choice is not statistically significant. It can therefore be concluded that whether a firm is a general insurer or a life insurer is not a statistically significant factor to consider when choosing the investment management structure to adopt. It is recommended the firms should be guided by their strategic intents and objectives in choosing their investment management structures and avoid being bogged down by the business category they are involved in.

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