Outsourcing Insurance Asset Management

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Introduction

As the rate of innovation in the capital market increases, and as investments become more complex, insurance companies may benefit from outsourcing asset management. The advantages to outsourcing include cost savings from a reduction in operational expenses and resource needs, as well as a reduction in the need to focus on regulatory compliance (Forsyth, 2005; Logan, 2000). It has also been argued that outsourcing gives the insurance company access to professional expertise and to a larger variety of investment vehicles at a lower cost. It follows logically that outsourcing asset management frees management time to focus more on the firm's core business.

This paper investigates the hypothesis that insurance companies that outsource their asset management function experience a greater return on assets than those who keep all or some of their functions in house.

For the purposes of this study, outsourcing for the insurer means that there is no asset management department in-house, there may be some employees that liaise with the outsourced asset management company, but no department which actually handles assets. Although there are many advantages of outsourcing the asset liability management (ALM) function, there are also some limitations. Insurers may be hesitant to outsource to asset managers who are unfamiliar with the regulatory restrictions that are specific to the insurance industry and that general asset managers may be unfamiliar with. That is a reason they may prefer to keep this function in-

house, where the nuances associated with insurance companies are familiar. For instance, life insurance regulations limit the amount that companies are able to invest in securities that are not investment grade. There has also been increased industry regulation around investments, which vary by the state or jurisdiction where the insurer does business. Insurers also must meet requirements and restrictions of International Financial Reporting Standards and Generally Accepted Accounting Principles. Perhaps this study would help the insurer evaluate the right balance between what to outsource and what to keep in-house, as well as the type of management approach toward their investment portfolio.

Literature Review and Hypothesis Development

Outsourcing versus In-House

The cost savings that outsourcing could achieve can be significant. The chief investment officer of State Street Global Advisors, Rick Lacaille, states that "outsourcing can pay off – especially for smaller firms or those with complex investment portfolios – by removing operational costs, such as the need to build and maintain middle office risk compliance systems" (Forsyth, 2005, p.2). Outsourcing also helps control regulatory costs that rise with the increasingly stringent regulatory, accounting, and tax environment. Retaining ALM in-house means the insurer would bear these added costs, manpower, and organizational effort. A by-product of these cost savings is that the insurer may further enhance profitability by concentrating their time, energy, and other saved resources on its core business (Logan, 2000). The

core business of an insurer is underwriting, insurance products, distribution, claims management, and other functions. This has been the main focus and profit driver for insurers, but now the trend is shifting toward investment assets to support underwriting activities and thus prove additional income on their balance sheet (Anderson, 2007).

When outsourcing to a multi-manager, assets are pooled in a larger institution that would be able to get into certain funds, such as exclusive private equity products, which a smaller firm would otherwise be unable to do (Forsyth, 2005). Historically, insurance companies invest in few conservative asset classes, domestic bonds with some real estate and private debts. Now, even the largest insurers outsource equities and alternative investments, mezzanine finance, distressed debt, commercial mortgages, hedge funds, or private equity (Anderson, 2007). The trend toward diversity and more focus on emerging markets has also pushed insurers toward having a more global approach to their portfolios.

Scrutinizing the disadvantages to outsourcing ALM can help achieve solutions and ways to mitigate the weaknesses and transform them into strengths. In general, third-party relationships can lack the freedom of customization that in-house management would allow. The insurer must trust their manager to accurately assess risks. As aforementioned, the high risk, strict regulation, and unfamiliarity with alternative investments may result in an insurer’s reluctance to enter these types of investments. Another drawback is that relying on the electronic accounting systems

used by third parties to comply with accounting regulations may not be accurate (Limburg, 2007). Thus, further intervention by personnel with accounting knowledge would be required to ensure accuracy. Evidently, outsourcing would result in certain levels of detail and customization being lost, so it is crucial to address these issues as they arise and obtain the solutions.

Futhermore, Joachim Faber, chief executive of Allianz Global Investors and member of the Allianz's group's management board, argues that "outsourcing is not able to cope with complexities of an insurance company" (Forsyth, 2005, p.1). He further assesses that the insurer needs to be able to oversee asset allocation and "look through the portfolio to each underlying holding in order to match the investments to the liabilities" (p.1). However, the recent turn of this economy and its affect on insurance companies has been causing insurers to rethink their techniques and traditional ways of managing assets. A managing director at Goldman Sachs Asset Management who focuses on insurance strategy expressed in an interview that even larger scale, traditional insurance companies who are struggling and whose S&P ratings have been downgraded are beginning to entertain the idea of outsourcing those functions. She attests that the major reason these insurers are in distress is not due to large claim payouts, but to losses in their investment portfolios.

There have been numerical studies on the cost effectiveness of in-house asset management. Specifically, for both life/health and property/casualty firms that were surveyed, the more complex investments such as commercial mortgages and real

estate investing had the highest fees (Swiss Re, p.20). On average, outsourcing has proved to be low cost – a Goldman Sachs CIO survey indicated that insurers reported spending an average of 10.2 basis points to manage their bond portfolios, compared to an average of 12.4 basis points for maintaining in-house asset management. To put this as a practical example, an insurer with $5 billion in investments that can permanently boost annual returns by 10 basis points will generate an additional $5 million in annual pre-tax income, $30 million in present value. To be able to measure the performance of a firm that outsources ALM, we will observe authors' empirical studies on sources of return for insurance companies.

Sources of return for a firm

Liebenberg and Sommer (2008) ran an OLS regression for property-liability insurance companies and determined that return on assets was based on factors such as diversification of the insurer, where undiversified insurers consistently outperformed diversified insurers. Diversification in this study was meant to distinguish between mono-line and multi-line insurers, indicated by a variable of 1 if the insurer had more than 1 line of business, and 0 for the latter. Also, they concluded that total assets and capitalization are positively correlated with return on assets (ROA), indicating that customers are more willing to pay for insurers that have lower insolvency risk. Their regression equation also contained other dummy variables to distinguish between publicly traded and private firms, mutual insurers, and if the insurer was part of a group insurance company. The conclusion was that ROA for

diversified firms is lower (between 1% to 6%) than for single line firms. Size is positively and significantly related to performance, that larger firms have economies of scale and lower insolvency risk. Also, the authors concluded that firm performance is negatively related to geographic diversification, and this coincides with logic, as a geographically diverse insurer would have less volatile profits due to coinsurance. They went on to conclude that there are potential benefits from risk reduction offset by costs associated with greater managerial discretion.

Cummins and Nini (2002) also find a positive relationship between firm size and ROE and an inverse relationship between diversification and ROE among property-liability insurers. Diversification was measured by premium generated by line of business, the Herfindahl index of premiums. Firm size was measured by log of total assets. They inferred that more diversified firms have lower revenue efficiencies than less diversified firms, suggesting that a strategic focus versus mass is a more successful approach.

Lai and Limpaphayom (2003) researched the effect of organizational profitability in non-life insurance companies with return on assets (ROA) as a measurement of firm performance. The independent variables of the regression equation were size (measured as the natural logarithm of total firm capital), leverage (liability to equity ratio), the loss exposure index, the total number of insurance policies written by the company (as a control for possible economies of scale), and a dummy variable to distinguish between a mutual or stock insurance company. The

coefficient for size was found to be negatively related to ROA; which led the authors to conclude that larger firms tend to be less profitable because size is inversely related to risk-taking (Lai and Limpaphayom, 2003). The amount of leverage of the firm was not statistically significant – industrial firms may experience a negative relationship between leverage and profitability, but this is not necessarily true for insurance companies because their liabilities are usually non interest bearing. The number of policies written was positively related to profitability, which would also lead us to think that size would be positively related. This relationship between size and performance is contrary to what Cummins and Nini (2002) and Liebenberg and Sommer (2008) have concluded. This may be due to the sample size and also because this study was conducted on Japanese firms.

Lang and Stulz (1994) performed similar studies as the aforementioned authors, but used Tobin's q as a performance metric rather than ROA or ROE. They concluded that highly diversified firms have significantly lower performance than single-segment firms, consistent with Cummins and Nini (2002).

Part of this study will be to investigate whether GSAM's dedication to provide a unique service to clients and create "strategic partnerships" rather than simply outsourcing is effective. When I inquired the managing director about what differentiates GSAM from main competitors such as BlackRock and PIMCO, the response was the customization GSAM offers and the dedicated insurance expertise. They offer advisory and not just pure asset management; helping the client's own

internal investment functions and striving for optimized structure within its operations, which leads to long-term gain within the organization. GSAM's main strength is specialization and its brand name, but can it sustain in an already saturated market and also permeate traditional insurance companies who are wary to stray from more traditional ways?

Methodology

Data from a sample of 64 U.S. insurance companies were collected, 32 which are clients of Goldman Sachs Asset Management, and the other 32 which keep some or all of their asset management functions in house. In order to be consistent, data from mutual insurers or insurers which are part of a group or pool of insurance companies was not collected (i.e., Lloyds of London). The list of clients was from internal research at Goldman Sachs and speaking to the managing directors/vice presidents and client relationship managers of the group. The list of insurers that do not outsource were compiled from online research and discussing the topic with the Goldman Sachs asset managers who have knowledge of which firms have their own internal functions. The insurance companies are both public and privately traded in the life and non-life industries. After obtaining this list of 64 companies, data for ROA, size, capitalization, and diversification were compiled from the CRSP database, and also obtaining data from GSAM analysts. An obstacle which I came across in data collection was that GSAM is still developing its client base and do not have many clients in which I can actually collect data, so I had to keep my sample size in

this study relatively small. I also had limited information and could not research further past years of the firm prior to outsourcing, as some were start-up Bermuda reinsurance companies. Descriptive statistics will be performed for the entire sample and then a regression analysis run using the following variables:

Dependent Variable

The readings above contemplate three different performance measures: ROE, ROA, and Tobin's q. Tobin's q compares the market value of a company's stock with the value of a company's equity book value. However, in this study, both publicly traded and private companies will be included, so this is not an option. ROE is calculated as net income at the end of a period divided by shareholders equity at the start of the period. It is an indicator of a firm's profitability and measures how much profit a company generates with the money shareholders have invested. ROA is calculated as annual net income over total assets and reveals how much profit a company earns for every dollar of assets. Because its denominator includes both debt and equity, ROA reveals how well a firm uses both forms of financing. If ROA is low or the company is carrying a lot of debt, a high ROE can give investors a false impression about the firm's actual state. Because of this, the variable chosen for study is ROA. The outsource variable is what I will be adding to the regression equation to test my hypothesis that this positively affects firm performance and would thus be positively related to the performance metric.

Independent Variables

Size

The size of the firm will be measured by total assets for the fiscal year ended 2008 from the insurance company's balance sheet. The relationship between size and ROA is expected to be positive, because larger firms would have lower insolvency risk and would be able to earn more revenues because size also conveys market power. The study that showed that the relationship was negative might have been to other variables such as the studied firms being domiciled in Japan.

Capitalization

Capitalization is the ratio of policyholder surplus to total assets; safer insurers are able to command higher prices. This will also be taken from the firm's 10K filing. It is expected that capitalization is negatively related to ROA because financial theory tells us that firms with relatively less leverage are less risky and thus have lower costs of equity capital.

Diversification

Like Liebenberg and Sommer (2008), diversification would be measured by marking multi-line insurers with 1, and mono-line insurers with 0. I would expect that the relationship between diversification and ROA is negative, based on the conclusions by the authors above. Undiversified insurers would consistently outperform diversified insurers.

Outsource

If the firm outsources either some or all of its asset management functions, this would be indicated with a 1, and if all the asset management is kept in-house, this would be designated with 0. I would expect this to be positively correlated with ROA.

The OLS regression equation would thus be:

ROA = f(outsource, size of firm by total assets, capitalization, multi-line insurer)

Estimation of the Model

In order to test the hypothesis, the ordinary least squares regression (OLS) is used to estimate the following equation:

$$Yi^* = \beta_0 + \beta_1 * \text{outsource} + \beta_2 * \text{log size of firm by total assets} + \beta_3 * \text{capitalization} + \beta_4 * \text{multi-line} + \text{error}$$

To test for significance, a 95% confidence level will be used, like previous authors have done.

Empirical Findings

Sample characteristics are presented in Table 1. ROA for the companies ranges from -.08 to .15, with a mean and median of .04. On average, the firm earns four cents for every dollar of its assets, and benchmarking this to the insurance industry in 2007, this is relatively high. According to Fortune magazine, the median ROA for stock property and casualty insurers (the majority of our sample size), is 1.7%[1].

[1] http://money.cnn.com/magazines/fortune/global500/2008/performers/industries/profits/assets.html

The outsource variable was positively but not significantly related to ROA, we are unable to verify that our hypothesis that insurance companies that outsource their asset management function experience greater return on assets than those who keep all or some of their functions in house. However, investigating the sample and data collected, the companies surveyed that outsourced asset management are all GSAM clients, some of which are public and some of which are private companies. GSAM's client base could have sample bias. ROA may not be the most accurate measure of the benefits of outsourcing asset management. According to the interview with the managing director of insurance strategy, some companies will hire an asset manager with specific instructions, such as to hold the portfolio and not trade, or only hire them to manage a specific part of their business. For GSAM, most of their client management is pure fixed income, and they may not be dealing with firms' entire portfolios or asset management functions. In this environment, some insurers do not wish to do anything with their assets or make trades out of low or negative performing funds, as from a financial perspective, they would have to mark them on the books and not report a loss at that moment. Thus, some companies now are choosing to hold their assets rather than trying to sell off bad assets and help their investment portfolios. This strategy would throw off any correlation or relationship we are looking for in ROA and outsourcing.

Firm capitalization and ROA are positively related and significant. This is the same conclusion as Liebenberg and Sommer (2008), and makes sense, as investment

losses and credit impairments have a negative impact on firm capital. A higher ROA indicates that the firm is well capitalized, and so this result is not a surprise. For instance, one of the insurers that have performed well amidst the financial crisis, Chubb, was capitalized at a ratio of .257 and had a corresponding above average ROA of .056. It has maintained A.M. Best's highest ratings and its investment portfolio has held up extremely well and did not have any direct exposure to the sub-prime mortgage-backed securities market.

Contrary to the results of past studies of Liebenberg and Sommer (2008) and Cummins and Nini (2002), firm size measured by log of assets is not significantly related to ROA, but did turn out to be positively correlated to ROA as previous authors had concluded. I would have thought that larger firms do experience economies of scale which results in lower insolvency risk. We once again must consider sample bias – there was a large range of firm sizes in the sample, and a mix of private and public companies, some of which are small reinsurance companies in Bermuda, and some are public companies in the U.S. Half of our sample of firms was limited to GSAM clients, and the rest of the sample was publicly traded. The past studies did not have as specific of a limitation in firms to choose from.

The dummy variable for diversification of the company, indicating whether it is a multi-line insurer or not, was not significant. Cummins and Nini (2002) and Lang and Stulz (1994) had concluded that diversification was significant in their studies. This may be due to the fact that most of the insurers in the sample were diversified

and had more than one line of business within the insurance space, so this variable would not be much of a differentiator in our sample. There was no evident relationship between ROA and diversification of the insurer's type of business.

Out of the variables that were significant, outsource and capitalization is positively correlated. The outsourcing variable is in line with the aforementioned studies, but insurer capitalization was expected to be negatively correlated to ROA. The R-squared result of .495 indicates that the model is a moderate fit for the variables studied; that about half (49.5%) of the variation in ROA can be explained by the variables outsourcing, multi-line, capitalization, and firm size.

Summary and Conclusion

This examination of the relation between ROA and outsourcing provides interesting results. Overall, there is no significant evidence that outsourcing has a positive impact on firm performance measured by ROA. The correlation is still positive, and the p-value is not too high at .143, indicating there is still some sort of relationship. This result can suggest that there is another metric to use for firm performance, which may indicate that an interesting benchmark for a future study to be used would be the insurer's specific portfolio performance rather than ROA. However, as it pertained to this study, I was unable to obtain this data, even for the GSAM clients, as this was confidential. The empirical evidence in this study does not suggest that there is a comparative advantage to outsourcing, which can be attributed to sample bias and size. The GSAM insurance asset management group is only a

couple of years old, as previously, GSAM as a whole only a handful of clients that were insurance companies. The small number of clients and all being of similar type – smaller reinsurance companies domiciled in Bermuda, may have contributed to this sample bias. GSAM needs to continue to expand its insurance client base and also its internal resources in order to sustain in this ever growing outsourcing asset management market. As insurers continue to struggle and experiences losses on their investment portfolios, they may turn to external resources that can perhaps offer a solution, and GSAM will have to continue to win bids and requests for proposals.

Appendix

Table 1

Descriptive Statistics

Variable	Mean	Std. Deviation	Minimum	Maximum
CAPITALIZATION	0.2691	0.15476	0.01	0.81
ROA	0.0413	0.03695	-0.08	0.15
OUTSOURCE	0.5000	0.50000	0	1
LOGASSETS	4.2116	0.94548	2.34	6.23
MULTI-LINE	0.5000	0.50000	0	1

Table 2

Dependent Variable: Y (ROA 2007)			
		Model I	
Variable	**Expected Sign**	**Coefficient**	**p-value**
X1: Outsource	+	0.029	0.143
X2: Log (assets)	+	-0.003	0.539
X3: Capitalization	-	0.09	0.005
X4: Multi-line	-	0.003	0.718

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