

(Preliminary Draft, Do Not Quote)

## **Mergers and Acquisitions in the U.S. Insurance Industry**

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### **ABSTRACT**

The challenging market condition for insurance carriers has become intense so that insurance companies look for all the feasible options for survival including consolidation with other insurance carriers, agent and broker networks and even non-insurance financial institutions. Using event study methodology, our study investigates whether the mergers and acquisitions of US insurers create value and there is strategic advantage for insurance carriers to consider cross-industry consolidations. We analyze all within-border mergers and acquisitions during 2003-2012 where either or both of the acquirer and target are US insurance carrier. We find that insurance mergers and acquisitions have positive valuation effects on acquiring firms, especially for the cross-industry mergers and acquisitions.

**Keywords:** Insurance, Merger and Acquisition, Economy of Scale, Economy of Scope, Event Study, Financial Integration, US Insurance Market

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## **I. Introduction**

Many years have passed since the upsurge of insurance mergers and acquisitions (M&A) in 1990s, but insurer mergers and acquisitions are still active in 2000s and 2010s. The very active insurer mergers and acquisition in 1980s and 1990s brought much of academic interests and many literature examining various aspects of insurer mergers and acquisitions in 1990s and early 2000s (e.g.; Cummins, Tennyson and Weiss, 1999; Berger et al., 2000; Akhigbe and Madura, 2001; Cummins and Weiss, 2004; Cummins and Rubio-Misas ,2006; Cummins and Xie, 2008)

The competition from non-traditional insurance providers such as commercial banks, mutual funds and investment advisory firms, more stringent solvency and capital requirement such as the risk-based capital (RBC), and needs for innovation in sales, pricing, underwriting and policyholder services required by technological advances were considered as the major driving forces for more efficient management of insurance companies and they encouraged opportunistic approach to the consolidation in 1980s and 1990s (Cummins, Tennyson and Weiss, 1999). Although the rationales for the mergers and acquisition in 1990s must be mostly still valid and similar in the 2000s and 2010s, it is possible that the insurer mergers and acquisitions in 21st century might be much different from the ones in 20st century due to the different economic conditions and regulatory environments.

Gramm-Leach-Bliley Act (1999) deregulated financial institutions mergers and acquisitions and thus provided an environment for synergies and diversification from cross-industry mergers and acquisitions. However, the insurance mergers and acquisitions market experienced a significant decrease in the number and the volume of deals after the financial crisis.

Boston Consulting Group (2009) examines the insurer mergers and acquisitions in 1998-

2008. They find that the increased competition among financial institutions, higher capital requirement after the global financial crisis and increasing needs for customer protection force the insurance industry to seek for more efficient ways of managing the business and generate sustainable profits to survive. The BCG report, however, finds that approximately 54 percent of the deals did not create value for shareholders of the acquiring companies and the mergers and acquisition deals done during the market downturn created higher values than those during good markets.

Insurers relatively performed well and experienced high capitalization and low leverage during most of the periods (Cummins and Xie, 2008). The business environment during later 2000s and early 2010s were much different from prosperity. Insurers suffered from financial crisis, low interest rate, and etc.

Despite the continuing mergers and acquisitions activities of insurance companies in a quite different economic and regulatory environment, there has been no academic research examining the insurer mergers and acquisitions in recent years. In addition, most previous literature only examines the mergers and acquisitions between insurance carriers. Insurers' mergers and acquisitions deals, however, are done between insurers and non-insurance carriers. To our knowledge, no study investigated the rationales or the value creation effect of the cross-industry mergers and acquisitions, other than the deals between banks and insurers, ignoring the majority of insurers' mergers and acquisitions. Our research contributes to the literature by filling this gap.

We found that 62 percent of mergers and acquisitions were cross-industry deals among the within-border mergers and acquisitions in the U.S. during the period of 2002-2012. Even among deals between insurance carriers, only about half were done between life insurers, health insurers, or property-casualty insurers. The most frequent mergers and acquisition

counterparty between non-insurance carriers were the insurance distribution networks such as insurance agents and/or insurance brokers. As the insurance market gets continuously matured in the U.S., innovating distribution channel has become an important issue and challenge. As the management of insurance companies is required to improve the performance of insurance companies under severe market environment requiring advanced state-of-art technological system, the distribution channel should be up-to-dated to lead the industry to exploit the opportunity from the market. In terms of strategic consideration for consolidation, an expansion into the distribution channel through M&As should be the dominant type of insurance mergers and acquisition in the future, and our paper shows that this strategy can be paid off; the cross-industry mergers and acquisitions created value unlike the intra-industry mergers and acquisitions.

The remainder of the article is structured as follows. The next section presents literature review, followed by hypotheses tested. Section III presents the discussion of the data and methodology. We then report empirical results, and conclude the paper.

## **II. Literature Review**

Focusing on the US life insurance industry, Cummins, Tennyson and Weiss (1999) examines the relationship between mergers and acquisitions and efficiency of insurance companies using the data from 1988 to 1995. Different from un-acquired rival insurance companies, acquired firms realize more enhanced efficiency than their comparable and matching rivals over time. This inaugural analysis on the effects of life insurer mergers and acquisitions on efficiency triggered a thriving subsequent researches (e.g., Berger et al., 2000; Cummins and Rubio-Misas, 2006; Cummins and Xie, 2008) in which the rationale of insurance consolidations are examined by adopting Data Envelopment Analysis(DEA) or Malmquist

methods to measure the efficiency of insurance companies.

Berger et al. (2000) offers potential explanations for the coexistence of joint producers and specialists by testing the two opposing hypotheses: conglomeration hypothesis versus strategic focus hypothesis. Conglomeration hypothesis emphasizes the cost or revenue scope economies, whereas strategic focus hypothesis justifies the series of actions focusing on core business and core activity of the business to reduce relevant costs and increase profit margins of operations. The analysis of approximately 700 US insurance companies concludes that the dominance of a hypothesis over the other depends on types of insurance providers, which in turn give supportive evidence for the coexistence of joint producers and specialist.

Cummins and Rubio-Misas (2006) shows that many small, inefficient and financially underperforming firms were eliminated from the Spanish insurance market through the mergers and acquisitions. In the Spanish insurance market, the consolidation worked as a mechanism to reduce the number of firms with increasing returns to scale and at the same time increase the number of firm with decreasing returns to scale. According to the results from DEA and Malmquist analysis, simply increasing the size of firms does not provide efficiency of firms, but it increased the chance of being eliminated from the market.

Cummins and Xie (2008) tests various rationales for mergers and acquisitions in the US property-liability insurance industry: economies of scale and/or scope, corporate control theory, financial synergy argument, agency costs theory, managerial hubris and industry shock theory. Using 150 acquirers and 96 targets from 1994 to 2003, they conclude that mergers and acquisitions in the US property-liability insurance industry have been value enhancing activities. Specifically, acquirers achieve more revenue efficiency while targets experience cost and allocative efficiency. They also find that the corporate control theory expects financial vulnerable firms to be targets and we have strong evidence for mergers and

acquisitions being a diversification event.

Akhigbe and Madura (2001) have done an event study on the insurance mergers and acquisition. They examine the effect of merger and acquisition announcement between two listed insurance companies from 1985 to 1995 and conclude that the positive and significant valuation effects for publicly traded acquirers and targets are explained by the signaling theory. Since bidders have special information about the target companies which are not available to the public, bidding by acquiring firms indicates that the value of targets is undervalued. Therefore, the acquisition provides the positive signal to the market which may generate positive response by the market and should be represented in the stock price at the announcement. Positive valuation effects for both acquiring and acquired insurance companies are significant and the magnitude of intra-industry effects is conditioned on the type of insurance company target. The acquisitions of non-life insurers signal more than the case of multi-line insurers. Signals are more pronounced for companies with a similar size and located in the same region as the target company.

Cummins and Weiss (2004) compare the value of cross-border and within-border mergers and acquisitions in Europe using the standard market model of event study methodology. The major deregulations such as the Second Banking Coordination Directives (1993) and the Third Generation Insurance Directives (1994) in Europe provide a natural laboratory to test the impact of cross-border transactions and within-border transactions. The results are consistent with results from merger and acquisition studies of industrial firms. The impact of transaction on acquiring firms is marginally negative when the deal is done within-border while the market reactions to target company stock are largely positive but strongly positive for within-border transaction. This result indicates that merger and acquisition creates value for shareholders of target companies but is not necessarily value destructing for

shareholders of bidder companies for cross-border deals.

Consolidation of financial institutions can be done between cross-industry institutions such as a bank and an insurer which represents a unique combination of business between banks and insurance companies, so-called bancassurance. The bancassurance provides a unique situation where each separate industry does not necessarily form a combined entity to do their distinct business by a single financial firm. Fields, Fraser and Kolari (2007) show that mergers between two types of financial firms provides wealth gains to bidders if there exist synergies owing to economies of scale, economies of scope and geographically comparative advantages from bancassurance mergers using the event study and multivariate regression analysis.

The recent trend of internationalization of banking and insurance industry is investigated in Focarelli and Pozzolo (2008). They explain the difference between banking and insurance cross-border mergers and acquisitions from 1990 to 2003. Due to the fundamental discrepancy between two industries, the rationale for the internationalization through mergers and acquisitions seems to be dissimilar. Even though some common factors such as distance, economic, and cultural integration may explain the expansion abroad, banking industry is mainly looking for the comparative advantage from the internationalization. Therefore, cross-border mergers and acquisitions by banks are likely to be done between dissimilar firms and happens in a country where implicit barriers to foreign entry exist.

### **III. Hypothesis Development**

#### ***Valuation effect***

Consolidations of firms are commonly formed to achieve optimal operating scale and reduce the unit cost of production. Combined firms after mergers or acquisitions should be able to

efficiently distribute the fair share of fixed cost to a bigger output unit and thereby achieve the scale cost economies. To reduce overhead costs, insurers look for deals among companies that are fairly similar in terms of geographical location, line of business, size, financial condition and operating efficiency. Since insurance mergers and acquisitions among similar insurers provide acquiring firms to expand its capacity in their domicile country, we expect positive market response to intra-industry insurance mergers and acquisitions because the economy of scale can be realized from transactions. Cummins and Xie (2008) show that mergers and acquisitions in the US property-liability insurance industry increased the efficiency of both acquirer and targets, supporting the value enhancing hypothesis.

However, previous literature also suggests that the opposite can be possible. Cummins, Tennyson and Weiss (1999) asserts that “Many insurers are burdened with costly agency distribution systems that in the long-run will lose out to non-traditional competitors.” Generally, for industrial firms, the impact of merger and acquisition on acquiring insurance companies is pronounced negative and the interpretation of the market on the announcement is also negative so that the cumulative abnormal return during the announcement dates is negative. Hence, the existence of value creation from insurance merger and acquisition can be an empirical question. In additions, the impact of merger and acquisition on participating companies can be different because the previous studies examine the deals done before early 2000s. This leads us to the “ Hypothesis I” but it cannot leave out a chance of having an opposite result.

***Hypothesis I (Value Creation Hypothesis): The merger and acquisition in the US insurance industry enhances value through scales/scopes of economy.***



Previous studies on the relationship between acquisitions and efficiency in the US life industry show that acquisitions lead to improvements in efficiency and expected more consolidation in the insurance industry because many insurers confronted with costly agency distribution system should lose their competitive advantages over other non-insurance companies (Cummins, Tennyson and Weiss, 1999). Recently, the expectation on the future of the insurance market becomes realistic pressure on CEOs of insurance companies and they look for a solution to survive the intense inter-industry competition among financial institutions in non-traditional insurance business.

Berger et al. (2000) posits that insurance companies alternate business plans over time so that no hypothesis can convincingly explain periodically changing aspect of insurance business strategy but the expansion for diversification can be interpreted as a positive sign to acquiring insurance companies. However if a merger and acquisition is involved with the transaction enhancing the efficiency of distribution channel such as introducing bancassurance system (Fields, Fraser and Kolari, 2007) may create values for acquiring insurance companies.

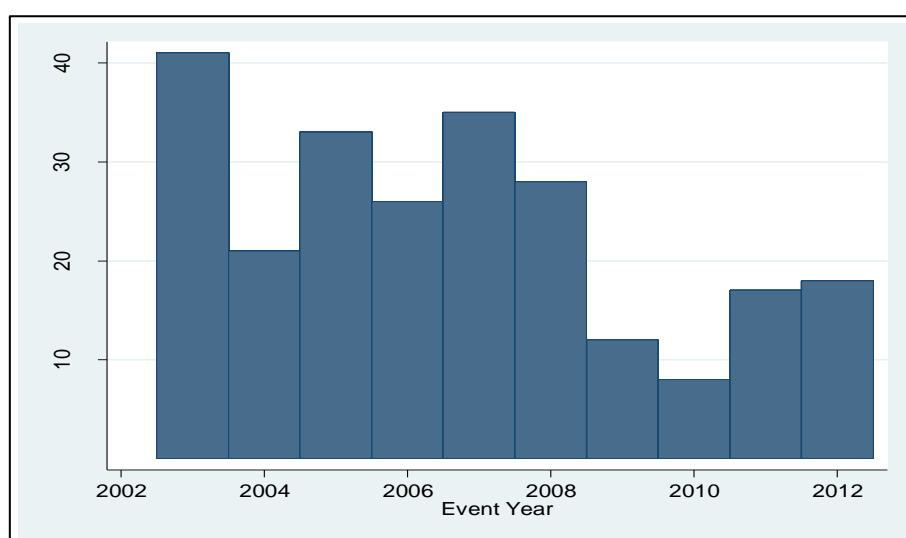
Cummins and Xie (2008) also emphasize the comparative advantage of mergers and acquisitions with dissimilar firms and from cross-border transactions. Complementing the existing business, some insurers set out to acquire smaller insurers that have complementary lines of business, product expertise, or special channels. Several traditional insurers, for example, acquired variable annuity insurers when demand for these products was on the rise. In summary, being inconsistent with previous cases on industrial transactions, the insurance merger and acquisition for diversification can be value enhancing for acquirers.

***Hypothesis 2 (Diversification Hypothesis): The merger and acquisition between cross-***

*industry transaction is significantly positive because the current insurance market condition in the US requires insurance companies to develop resources of revenue generation.*

#### IV. Sample Selection and Methodology

[Graph 1] Trend of Insurance M&A in the US



We extract the mergers and acquisitions data from Zephyr, one of the Bureau van Dijk database. During the sample period of January 1<sup>st</sup>, 2003 to December 31<sup>st</sup>, 2012, there were globally 5,841 mergers and acquisitions of which insurance carriers are at least one of the mergers and acquisition counterparties. We identified insurance carriers with the Standard Industrial Classification (SIC) code of 6311 (Life Insurance), 6321 (Accidental and Medical Services Plans), and 6331 (Fire, Marine and Casualty Insurance). The sample period was selected to provide nourishing environment where we could inspect the impact of global financial crisis.

Our definition of “Insurance M&A” was not strictly limited to the M&A transactions in which both acquirer and target are insurers but included deals where at least one of them was an insurance carrier. However, we left out cases where multiple acquirers or multiple targets were involved in one transaction. This should certainly preclude the possibility of having muddling interpretation of results due to multiple participants.

Since our study is primarily focused on the US insurance market, cross-border insurance M&A deals are excluded. The analysis of market response on insurance M&A requires the stock price of acquirers or targets. But because most targets are not listed the event study was feasible only for listed acquiring firms. Consequently, the number of deal was reduced to 239 cases. [Graph 1] shows the number of “insurance M&A” during the period. The fluctuating trend until 2008 has been changed due to the lingering impact of global financial crisis. The number of mergers and acquisition become halved from 2009 but shows some trends of recovery from 2011.

[Table 1]: Insurance M&As in the U.S. (2003-2014)

		TARGET		
		Non-insurer	Insurer	Total
ACQUIRER	Non-insurer	N.A.	54	54
	Insurer	93	92	185
	Total	93	146	239

Among 239 insurance mergers and acquisitions, only 92 deals were the “intra industry” mergers and acquisitions where both the acquirer and target are insurance carrier. Remaining cases are “one-sided” insurance mergers and acquisition (“Cross-industry” transactions) in which an acquirer or a target is an insurance carrier while the other company is not an insurance carrier. More often are cases where insurance companies are acquiring non-insurance carriers which consist of 185 cases. We have 54 cases where insurance carriers are

acquired by non-insurance firms.

To test the market response to the announcement of insurance mergers and acquisitions, we adopt the standard market model event study methodology using the estimation period from 250 trading days before the event up to 30 trading days before the date. The daily stock price data is collected from the Center for Research in Security Prices (CRSP). As we use the stock price data to evaluate the value creation of mergers and acquisitions, only the values of publicly traded firms are evaluated. As a result, our sample includes 239 domestic insurance consolidation deals in the U.S.

## V. (Preliminary) Results

### *Valuation Effect*

[Table 2] show the results from the event study analysis on 199 deals with various event windows on insurance mergers and acquisition announcement. Interestingly, the market response on the announcement turns out to be positive for those all the significant event windows. Cumulative average abnormal returns (CAARs) are positive for (-1,+1), (-1,0) and (-2,0) which indicate that the insurance mergers and acquisition are pronounced value creating events for acquirers. These results are not consistent with results from merger and acquisition research on industrial firms but consistent with expectation from Akhigbe and Madura (2001) and Cummins and Xie (2008)

[Table 2] CAARs across Event Windows: All Transactions for All Years, 2003-2012 (N=199)

Event window	CAAR	Robust Std. Err.	t-value	P> t
<b>(-1,+1)</b>	<b>0.0104*</b>	<b>0.0056</b>	<b>1.86</b>	<b>0.065</b>
(-2,+2)	0.0082	0.0061	1.35	0.177
(-5,+5)	0.0051	0.0083	0.62	0.539
(-10,+10)	0.0134	0.0092	1.45	0.148

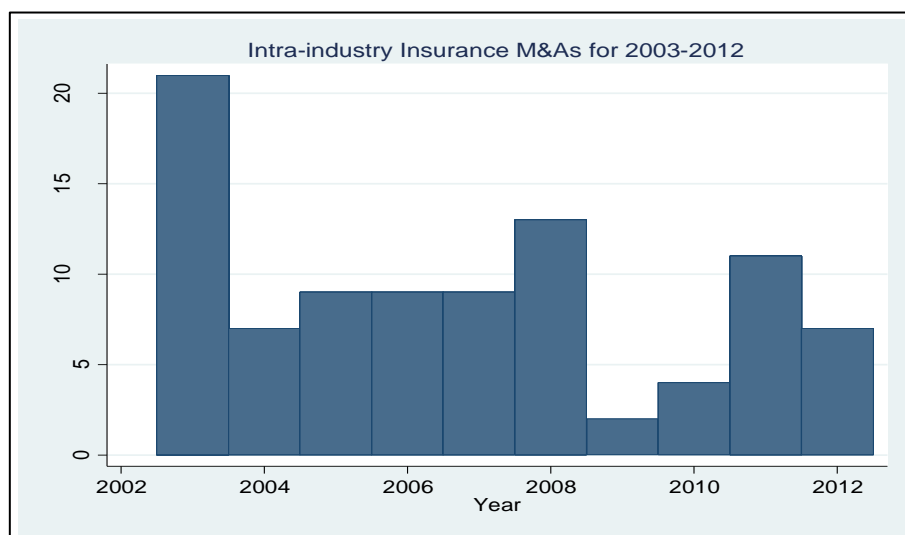
<b>(-1,0)</b>	<b>0.0100**</b>	<b>0.0041</b>	<b>2.47</b>	<b>0.015</b>
<b>(-2,0)</b>	<b>0.0076*</b>	<b>0.0042</b>	<b>1.82</b>	<b>0.070</b>
(-5,0)	0.0060	0.0047	1.29	0.199
(-10,0)	0.0098	0.0068	1.45	0.149
(0,+1)	0.0087	0.0056	1.56	0.121
(0,+2)	0.0088	0.0058	1.51	0.133
(0,+5)	0.0073	0.0073	1.01	0.316
(0,+10)	0.0118	0.0076	1.56	0.120

\* Significant at 10 percent level, \*\* Significant at 5 percent level

The result must be considered to be a supportive evidence for Hypothesis I(Valuation Effect Hypothesis) indicating that insurance mergers and acquisitions are value creating events.

### *Intra-Industry Transactions*

[Graph 2] Intra-industry Insurance M&As for 2003-2012



Our sample on insurance merger and acquisition identifies situations where both acquirer and target are insurance carriers (“Intra-industry” mergers and acquisitions). In the

sample, we have 93 such cases. [Graph 2] illustrates the diminishing trend of intra-industry insurance mergers and acquisitions. As in [Graph 1], the number of intra-industry deals is dropped during the global financial crisis but indicates a sign of slight recovery for the recent years.

Many intra-industry transactions are done between traditional insurance carriers such as life insurance carriers, accidental and medical service plans and fire, marine and casualty insurance carriers as shown in [Table 3] and the number of intra-industry mergers and acquisitions amounts to 50 out of all the 92 intra-industry transactions..

[Table 3] Intra-industry Insurance M&A: Insurers as Acquirers and Targets

Target Acquirer	Life Insurance (SIC: 6311)	Accident and Medical Service Plans (SIC: 6321)	Hospital and Medical Service Plans(SIC: 6324)	Fire, Marine and Casualty Insurance (SIC: 6331)	Surety Insurance (SIC: 6361)	Pension, Health, and Welfare Funds (SIC: 6371)	Insurance Carriers, NEC (SIC: 6399)	Total
Life Insurance (SIC: 6311)	<b>12</b>	3	3	3	1	0	0	22
Accident and Medical Service Plans (SIC: 6321)	1	<b>19</b>	6	0	1	1	3	31
Hospital and Medical Service Plans(SIC: 6324)	0	4	0	0	0	0	0	4
Fire, Marine and Casualty Insurance (SIC: 6331)	8	3	0	<b>19</b>	2	0	1	33
Pension, Health, and Welfare Funds (SIC: 6371)	1	1	0	0	0	0	0	2
Total	22	30	9	22	4	1	4	92

Note: The number of exact matching up to 4-digit SIC amounts to 50 out of 92 deals (54.3%)

The results for event study on the intra-industry transactions ([Table 4])are not

significant, implying the response from the market on the announcement of mergers and acquisitions between traditional insurance carriers does not create any changes in firms values. Irrespective of the event window, the result has the consistent outcome for the test.

[Table 4] CAARs for Intra-industry Transactions for All Years, 2003-2012 (N=79)

Event window	CAAR	Robust Std. Err.	t-value	P> t
(-1,+1)	-0.0008	0.0049	-0.17	0.862
(-2,+2)	0.0000	0.0052	-0.01	0.993
(-5,+5)	0.0044	0.0087	0.51	0.610
(-10,+10)	0.0015	0.0138	0.11	0.915
(-1,0)	0.0015	0.0034	0.42	0.673
(-2,0)	0.0017	0.0038	0.46	0.650
(-5,0)	0.0079	0.0060	1.31	0.192
(-10,0)	0.0098	0.0103	0.95	0.344
(0,+1)	-0.0012	0.0042	-0.28	0.777
(0,+2)	-0.0007	0.0041	-0.16	0.872
(0,+5)	-0.0024	0.0057	-0.41	0.679
(0,+10)	-0.0072	0.0077	-0.94	0.351

### *Cross-industry Transactions*

[Table 5] CAARs for Cross-industry Transactions for All Years, 2003-2012 (N=199)

Event window	CAAR	Robust Std. Err.	t-value	P> t
<b>(-1,+1)</b>	<b>0.0178</b>	<b>0.0087</b>	<b>2.05</b>	<b>0.042</b>
(-2,+2)	0.0136	0.0094	1.44	0.151
(-5,+5)	0.0055	0.0125	0.44	0.660
<b>(-10,+10)</b>	<b>0.0213*</b>	<b>0.0123</b>	<b>1.73</b>	<b>0.087</b>
<b>(-1,0)</b>	<b>0.0156**</b>	<b>0.0063</b>	<b>2.48</b>	<b>0.014</b>
<b>(-2,0)</b>	<b>0.0116*</b>	<b>0.0065</b>	<b>1.78</b>	<b>0.078</b>
(-5,0)	0.0048	0.0067	0.72	0.473
(-10,0)	0.0099	0.0090	1.09	0.277
<b>(0,+1)</b>	<b>0.0152*</b>	<b>0.0088</b>	<b>1.73</b>	<b>0.087</b>
(0,+2)	0.0151	0.0093	1.62	0.107
(0,+5)	0.0137	0.0115	1.19	0.234
<b>(0,+10)</b>	<b>0.0244</b>	<b>0.0114</b>	<b>2.14</b>	<b>0.035</b>

\* Significant at 10 percent level, \*\* Significant at 5 percent level

To examine the impact of mergers and acquisitions on firm values when the transactions are designed to promote the diversification of insurance carriers' business scope, we select the mergers and acquisitions where only one of acquirers and targets is an insurance carrier classified in the Standard Industrial Code (SIC) and define them as "Cross-industry" mergers and acquisitions.

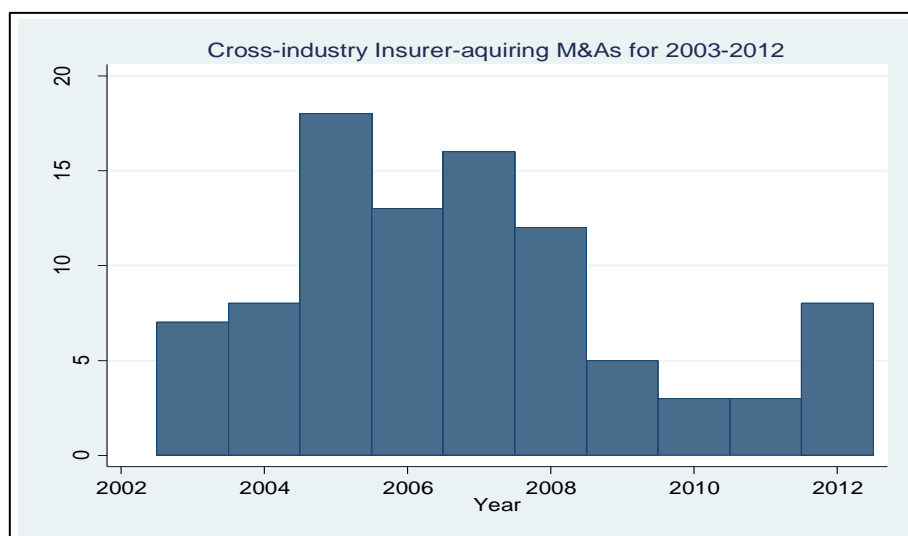
Based on the event study on all the cross-industry deals, we find that the announcement of cross-industry is taken as strongly positive information on acquiring firms' value. The range of significant event window can be extended into 10 days prior to the event as well as 10 days posterior to the event. Considering requirements for higher variations in insurance company's product mix as well as diversified but customer-oriented services, the diversification from mergers and acquisitions should be considered positive events to the acquiring firms. All the results on [Table 4] is the supporting evidence for Hypothesis II (Diversification Hypothesis) in which insurance company should be able to enhance the chance of having greater resource for the revenue by combing its business with other financial institutions.

### ***Robust Check for Diversification***

Even though the cross-industry mergers and acquisitions are proved to be value creating, it does not necessarily guarantee the success of the transaction. We notice the trend of cross-industry transaction over time is different when we classify them into two groups depending on who is the acquirer.

[Graph 3] Cross-industry Insurer-acquiring M&As





Different from [Graph 1], the number of cross-industry transaction reaches its peak during 2005 to 2008 which seems to be unexpected considering the period contains the period for the global financial crisis when most stocks were experiencing downturn of the market.

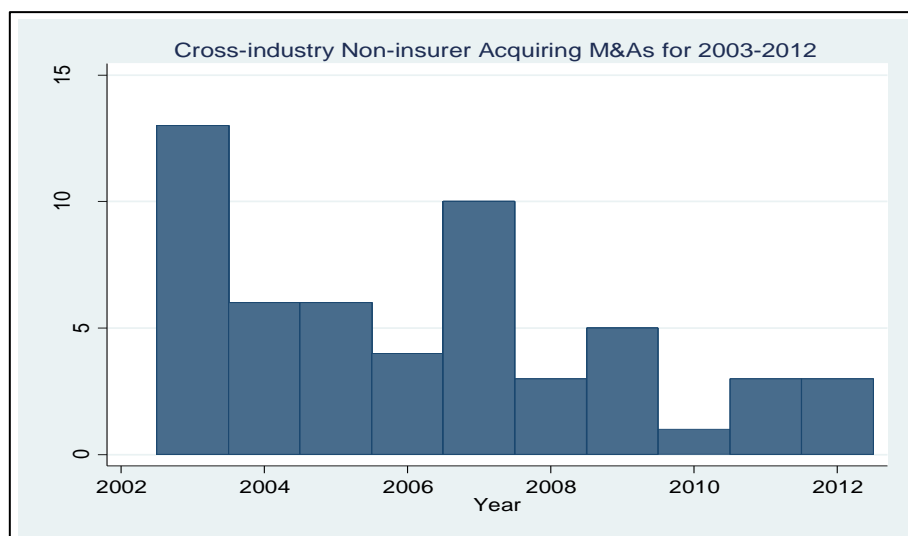
[Table 6] Cross-industry Insurance M&A: Insurers as Acquirers for 2003-2012

Acquirer	Target	Insurance Agents, Brokers, and Service (SIC: 6411)	Others (42 different SICs)	Total
Life Insurance (SIC: 6311)		14	22	36
Accident and Medical Service Plans (SIC: 6321)		3	33	36
Fire, Marine and Casualty Insurance (SIC: 6331)		12	9	21
Total		29	64	93

Note: Since targets in 64 cases are widely spread into 42 difference SICs with no particular pattern of concentration, their specifics are not shown here.

In the most significant “Insurer-acquiring” cross-industry transactions, 29 out 93 cases, insurance carriers are acquiring the insurance agents, brokers and service providers. With a reasonable level of expectations, those insurance companies are looking for advanced or efficient distribution channels for their business which can be considered to be a form of diversification efforts.

[Graph 4] Cross-industry Non-insurer Acquiring M&As



Meanwhile, in the “Non-Insurer acquiring” cross-industry merger and acquisitions ([Graph 4]), the number of transaction is similar to the overall situation for insurance mergers and acquisition. Similarly with the “Insurer acquiring” cases, “Insurance Agents, Brokers, and Services” are heavily involved in the deals as major acquirers.

[Table 7] Cross-industry Insurance M&A: Non-insurers as Acquirers for 2003-2012

Acquiring Company	Life Insurance (SIC: 6311)	Accident and Medical Service Plans (SIC: 6321)	Fire, Marine and Casualty Insurance (SIC: 6331)	Total
Household Appliances, NEC (SIC: 3639)	2	0	0	2
National Commercial Banks (SIC: 6021)	1	0	1	2
Commercial Banks, NEC (SIC: 6029)	4	0	2	6
Security Brokers, Dealers, and Flotation Companies (SIC: 6211)	1	0	0	1
Insurance Agents, Brokers, and Service (SIC: 6411)	10	6	17	<b>33</b>
Offices of Bank Holding Companies (SIC: 6712)	1	1	0	2
Offices of Holding Companies (SIC: 6719)	0	0	2	2

Investors, NEC (SIC: 6799)	0	0	2	2
General Medical and Surgical Hospitals (SIC: 8062)	0	1	0	1
Health and Allied Services, NEC (SIC: 8099)	0	2	0	2
Accounting, Auditing, and Bookkeeping Services (SIC: 8721)	1	0	0	1
Total	20	10	24	54

More than half of cases (33 out of 54 transactions) are completed as “Insurance Agents, Brokers, and Services” acquire a traditional insurance carrier. Unlike the insurer acquiring cross-industry mergers and acquisitions, the purpose of transaction seems to be not the diversification of business but rather a conglomeration because a distribution channel provider has intention of possessing an insurance carrier to become a massive insurance conglomerate.

[Table 8] CAARs for Transactions by Acquirers, 2003-2012

Event window	Panel A				Panel B			
	Insurer Acquirers (N=85)				Non-insurer Acquirers (N=51)			
	CAAR	Robust Std. Err.	t-value	P> t	CAAR	Robust Std. Err.	t-value	P> t
(-1,+1)	<b>0.02415*</b>	<b>0.0123</b>	<b>1.97</b>	<b>0.053</b>	0.0027	0.0023	1.19	0.239
(-2,+2)	0.0210	0.0132	1.59	0.116	-0.0010	0.0035	-0.28	0.782
(-5,+5)	0.0136	0.0179	0.76	0.450	0.0021	0.0021	0.37	0.714
(-10,+10)	0.0442	0.0173	2.56	0.012	-0.0107	0.0070	-1.53	0.133
(-1,0)	<b>0.0216**</b>	<b>0.0088</b>	<b>2.46</b>	<b>0.016</b>	0.0008	0.0029	0.28	0.782
(-2,0)	<b>0.0174*</b>	<b>0.0091</b>	<b>1.93</b>	<b>0.057</b>	-0.0008	0.0033	-0.25	0.802
(-5,0)	0.0129	0.0100	1.28	0.203	-0.0017	0.0041	-0.42	0.674
(-10,0)	<b>0.0266**</b>	<b>0.0129</b>	<b>2.07</b>	<b>0.042</b>	<b>-0.0150***</b>	<b>0.0055</b>	<b>-2.72</b>	<b>0.009</b>
(0,+1)	<b>0.0223*</b>	<b>0.0123</b>	<b>1.81</b>	<b>0.074</b>	0.0021	0.0026	0.80	0.425
(0,+2)	<b>0.0233*</b>	<b>0.0129</b>	<b>1.80</b>	<b>0.076</b>	0.0000	0.0031	0.01	0.995
(0,+5)	0.0204	0.0161	1.27	0.207	0.0040	0.0043	0.93	0.358
(0,+10)	<b>0.0364**</b>	<b>0.0159</b>	<b>2.28</b>	<b>0.025</b>	0.0041	0.0057	0.73	0.470

\* Significant at 10 percent level, \*\* Significant at 5 percent level

Applying the event study methodology on two types of cross-industry mergers and acquisitions provides interesting results where the market responses to “Insurer acquiring”

mergers and acquisitions are strongly positive but not nearly significant for “Non-insurer acquiring” mergers and acquisitions.

For many different event window for the insurer acquiring cases ([Table 8], Panel A), the cumulative average abnormal returns are statistically significant and all positive. But the test results for the non-insurer acquiring cases ([Table 8], Panel B) are not generally significant and shows even negative sign for (-10, 0)

Even though further investigation and analysis are required, we can conclude that the diversification in the insurance industry is embedded with a positive aspect of combining multiple firms but simply expanding its business to form a conglomerate does not guarantee a success in the market.

## **VI. Conclusion**

The recent market condition for insurance carriers has been tougher due to increasing competition, stringent capital requirement, higher customer protection, innovative challenge from information technology firms, and numerous needs from customers. Insurance companies looking for launching more efficient distribution channels, designing customer-oriented products and building transparent balance sheets consider all the feasible options for survival including consolidation with other insurance carriers, agent and broker networks and even non-insurance financial institutions.

Using event study methodology, our study investigates whether the mergers and acquisitions of US insurers created value. We investigate all within-border mergers and acquisitions during 2003-2012 where either or both of the acquirer and target are US insurance carrier. We find that insurance mergers and acquisitions have positive valuation

effects on acquiring firms from all transactions. The further studies by dividing all transaction into two sub-samples, intra-industry and cross-industry consolidations, show that the positive value creating effects do exist because value creation effects on cross-industry cases are dominantly strong and no significant effect exists on intra-industry cases. Even among those cross-industry mergers and acquisition, consolidations when insurance carriers acquiring non-insurance carrier are taken as value-creating events by the market.

These results confirm our intuition that, due to the intense challenging environments, insurance carriers should consider seriously some strategic consolidation with non-insurance carriers.

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**APPENDIX**

[Table A1] CAARs for Transactions before Financial Crisis, 2003-2006 (N=99)

Event window	CAAR	Robust Std. Err.	t-value	P> t
(-1,+1)	0.0172	0.0106	1.62	0.109
<b>(-2,+2)</b>	<b>0.0189*</b>	<b>0.0105</b>	<b>1.80</b>	<b>0.075</b>
<b>(-5,+5)</b>	<b>0.0231*</b>	<b>0.0124</b>	<b>1.86</b>	<b>0.066</b>
<b>(-10,+10)</b>	<b>0.0280*</b>	<b>0.0147</b>	<b>1.91</b>	<b>0.059</b>
(-1,0)	0.0117	0.0073	1.61	0.111
(-2,0)	0.0124	0.0076	1.63	0.106
<b>(-5,0)</b>	<b>0.0156*</b>	<b>0.0080</b>	<b>1.93</b>	<b>0.056</b>
<b>(-10,0)</b>	<b>0.0207**</b>	<b>0.0099</b>	<b>2.08</b>	<b>0.040</b>
(0,+1)	0.0168	0.0105	1.60	0.112
(0,+2)	.0178*	0.0103	1.73	0.087
(0,+5)	0.0189	0.0123	1.54	0.127
(0,+10)	0.0187	0.0134	1.39	0.167

\* Significant at 10 percent level, \*\* Significant at 5 percent level

[Table A2] CAARs for Transactions during Financial Crisis, 2007-2009 (N=61)

Event window	CAAR	Robust Std. Err.	t-value	P> t
(-1,+1)	0.0011	0.0059	0.18	0.854
(-2,+2)	-0.0071	0.0093	-0.77	0.446
(-5,+5)	-0.0176	0.0168	-1.05	0.299
(-10,+10)	0.0077	0.0173	0.44	0.659
<b>(-1,0)</b>	<b>0.0117*</b>	<b>0.0059</b>	<b>1.98</b>	<b>0.052</b>
(-2,0)	0.0028	0.0055	0.52	0.607
(-5,0)	-0.0024	0.0073	-0.33	0.743
(-10,0)	0.0015	0.0146	0.10	0.918
(0,+1)	-0.0037	0.0060	-0.62	0.536
(0,+2)	-0.0031	0.0088	-0.35	0.724
(0,+5)	-0.0084	0.0121	-0.69	0.491
(0,+10)	0.0130	0.0103	1.26	0.212

\* Significant at 10 percent level

[Table A3] CAARs for Transactions after Financial Crisis, 2010-2012 (N=39)

Event window	CAAR	Robust Std. Err.	T	P> t
<b>(-1,+1)</b>	<b>0.0079***</b>	<b>0.0028</b>	<b>2.77</b>	<b>0.009</b>
(-2,+2)	0.0050	0.0048	1.04	0.303
(-5,+5)	-0.0051	0.0076	-0.67	0.505
<b>(-10,+10)</b>	<b>-0.0148***</b>	<b>0.0087</b>	<b>-1.69</b>	<b>0.099</b>
(-1,0)	0.0033	0.0026	1.27	0.211
(-2,0)	0.0032	0.0038	0.83	0.414
(-5,0)	-0.0049	0.0042	-1.17	0.249
(-10,0)	-0.0046	0.0064	-0.71	0.480
<b>(0,+1)</b>	<b>0.0074***</b>	<b>0.0024</b>	<b>3.12</b>	<b>0.003</b>
(0,+2)	0.0047	0.0036	1.29	0.206
(0,+5)	0.0026	0.0069	0.37	0.710
(0,+10)	-0.0074	0.0087	-0.85	0.399

\* Significant at 10 percent level, \*\* Significant at 5 percent level, \*\*\* Significant at 1 percent level