

# MERGERS AND SHAREHOLDERS' WEALTH IN THE INSURANCE INDUSTRY

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## ABSTRACT

*This paper examines the stock market valuation of mergers in the insurance industry between 1996 and 2000 in Europe and in the US. We form a sample of 56 deals in which the acquiring company is listed. Our data reveal that insurance companies mergers enhance value for bidder shareholders. Over the event window (-20,+2) their abnormal return is 3.65%. The abnormal returns for acquiring firms are larger the greater the relative size of deal value. We also find that mergers occurring between insurance companies located in the same European country are not valued positively by the market, while cross-border deals appear to increase shareholder's wealth. The analysis of a sub-sample of simultaneously listed bidders and targets reveals that the combined insurance companies experience significantly positive abnormal returns – over the event window (-20,+2) shareholders gain 5.27% – and consistent with previous findings, target shareholders substantially increase their wealth.*

**JEL Classification codes:** G14, G22, G34.

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## 1. Introduction

In this paper we examine the effects of insurance companies M&As on market values using an event study methodology. Our sample includes 56 merger deals that occurred between 1996 and 2000 in the US, in Europe and in Australia.

The main objective of our paper is to analyze merger benefits for the acquiring insurance companies. The impact of an acquisition on bidder value is of particular interest. Theoretical literature points out that an M&A deal can either create or destroy value. Most empirical literature on financial mergers reports that on average target firms earn significant positive abnormal returns, while bidder institutions earn negative returns or at best break even.

We believe a major factor in valuing effects for bidder's shareholders is the relative importance of the merger with respect to the value of the acquiring firm. A merger is more likely to have a great impact (either positive or negative) on acquiring firm's value the larger the size of the deal compared to the bidder value.

Many studies often consider a large number of deals, but samples also include many events in which the relative importance of the acquisition is small. That adds significant variability to the results and cannot help distinguish between different hypothesis on the impact of the merger on bidder shareholders wealth.

Therefore we follow a different approach: when selecting the sample, we require the bidder to be listed and the price paid for the acquisition to be known in order to measure the relative importance of the deal and we also require the ratio between deal value and bidder market value to be greater than 2%. Our sample selection also allows us the analysis of targets which are not listed.

We are also able to form a sub-sample where both bidders and targets are listed in order to detect the abnormal returns of acquirers and targets separately and the total change in shareholder's wealth that occurs in the combined insurance company. By focusing on the total return of the combined firm, we can address the question of whether the market believes the merger to be value-enhancing.

Our paper also extends research on valuation effects in the financial industry. Previous studies that focus on financial mergers examine acquisitions between banks or banks and insurance companies. Our study focus on acquisitions whose merging partners are pure insurance companies. The valuation effects of mergers in the insurance industry have not received adequate scrutiny in the literature<sup>1</sup>, though insurance companies have been quite active in the consolidation process. For example, Berger et al. (1999) show that over 1985-1997, consolidation in the insurance industry accounted

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<sup>1</sup> To our knowledge, previous studies on insurance companies mergers include Cummins et al. (1999), Chamberlain and Tennyson (1998), BarNiv and Hathorn (1997). Cummins et al. consider efficiency effects. The other two studies focus on the property-liability insurance in the US and follow different approaches from our study.

for 18.9% of the financial intermediaries merger activity in the U.S. and 18.6% in European domestic deals. Insurance companies appear to be more active in international mergers. For example, acquisitions of US insurance companies by non-US insurance companies represent 37% of all international acquisitions concluded by non-U.S financial institutions. The percentage increases to 44% if we consider intra-Europe acquisitions, while acquisitions of European insurance companies by non-European insurance companies reached 33% of all transactions concluded outside their domestic market by non-European financial institutions.

Contrary to many studies, we do not restrict our attention to a specific country. Previous research mostly focus either on the US market or on the European one. Our data include deals that occurred in and across Europe, the US and Australia. The partition among different countries allows us to separately value the effects on shareholders' wealth of domestic mergers as well as the impact of international acquisitions.

The results of our study indicate that bidder shareholders earn significantly positive abnormal returns (3.65%) and the wealth increase is positively related to the relative size of the deal. Hence bidder shareholders tend to earn more when their company is involved in larger deals. The attempt to detect potential driving factors in the observed pattern shows that mergers involving partners located within the same European country are not value-enhancing, while market participants appreciate cross-border deals. Therefore the increase in market concentration following "in-market" mergers is not a viable explanation in the insurance industry. Bidder shareholders gain more when the deal involves merging partners either in the reinsurance or in the life insurance business. Abnormal returns for diversifying insurance companies, though positive, are not statistically significant.

The paper is organized as follows. In section 2 we review previous findings on the impact of financial mergers on shareholders' wealth. In section 3 we describe our sample design and present the summary statistics. In section 4 we describe the methodology we follow. Section 5 presents the results for the overall sample of 56 acquiring firms. Section 6 presents the results for the sub-sample of matched listed parties and reports the results for targets, bidders and combined insurance companies. Section 7 summarizes the findings and then concludes.

## **2. The impact of the consolidation process in the financial industry on shareholders' wealth**

The great pace of acquisition activity in the financial services' industry has attracted a lot of interest in order to detect the wealth effects produced by such deals. The merger activity should be primarily motivated by the desire to increase shareholders' wealth. Hence one would expect the acquisition to generate synergies.

That can be achieved in several ways<sup>2</sup>. Mergers can exploit economies of scale, benefit from diversification in the product mix or in the geographic market extension, displace inefficient management or enhance revenues by improving marketing. Geographic or product diversification can then be valuable in stabilizing returns. That can raise value by reducing the expected value of bankruptcy costs and hence reducing the cost of capital.

There is some evidence that efficiency gains can be a rational motive for acquisition. Cummins et al. (1999) compare the efficiency of acquisition targets with life insurance companies that have not been targets and show that acquired insurance companies achieve greater efficiency and improved profitability. Improvements in profitability of 30 large target banks are also reported in Cornett and Tehranian (1992)<sup>3</sup>. Cybo-Ottone and Murgia (2000) find that in Europe cross-product deals that involve banks and insurance companies are the main driver of positive abnormal returns. Chamberlain and Tennyson (1998) argue that mergers can be motivated by financial synergies, while BarNiv and Hathorn (1997) suggest that mergers are a viable answer to distressed companies.

Financial firms can also engage in merger activity to increase their market power, thus reducing competition. If so, prices can be increased allowing the merged firm to earn monopolistic profits. Despite the antitrust authority can refuse the approval of a merger that results in a significant reduction in competition, potential gains for increase market power can still be substantial. In the banking industry there is some evidence that M&A deals are designed to increase market power. For instance, on the US banking market, intrastate mergers show higher returns than interstate mergers (Becher (2000), DeLong (1999), Houston and Ryngaert (1994), Hawawani and Swary (1990)). Also on the European banking market, domestic combinations tend to create more value than cross-border deals (Cybo-Ottone and Murgia (2000)).

The pace of consolidation activity can also be determined by changes in the regulatory environment. For instance, the number of deals in the U.S. banking sector has increased substantially after the removal of restrictions on interstate expansion. Barriers to the geographic diversification may have allowed inefficient organizations to survive. In Europe a major impulse to the consolidation activity comes from the EU directives setting the freedom of operations of financial firms across national boundaries and the implementation of the monetary union, fostering the benefits of diversification and economies of scale achievable in cross-border mergers.

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<sup>2</sup> See Pilloff and Santomero (1996) and Berger, Demsetz and Strahan (1999) for an analytical review of motivations behind a merger deal.

<sup>3</sup> In this paper we do not follow the approach of comparing pre-merger and post-merger performance using accounting data, but we analyze merger benefits based on stock market reaction to merger announcements. A discussion of the two approaches as well as a survey of the studies is provided by Rhoades (1994) and Pilloff and Santomero (1996).

However previous studies that examine the impact of mergers on bidders, targets and combined firms in the financial industry show mixed results. Such evidence is summarized in table 1.

[Insert table 1 about here]

Despite the fact that results are sensitive to event window selected and to the time period, previous findings agree in showing significant positive returns for targets, while abnormal returns to bidder shareholders are significantly negative or at best insignificantly positive. However the combined banking institution appears to enhance value and that is especially true in recent years.

If mergers on average fail to create value for their shareholders, it seems then plausible that a merger results in the best interest of managers not of shareholders. Mergers offer a great opportunity to managers to pursue their own goals, mainly raise their compensation as the size of the company they run increases. Hence agency costs can help explain the weak results in value enhancement. Or, put it simply, managers may get involved in merger activity to emulate their competitors or avoid to become an acquisition target.

This study try to address some of these questions by focusing on the merger activity in the insurance industry.

### **3. Sample selection and summary statistics**

We examine mergers and acquisitions that were announced by an insurance company between 1996 and 2000 across all industrialized countries. We define an M&A deal as any acquisition of a stake of 50% between unaffiliated parties<sup>4</sup>. For each deal to be included in the sample we require the acquiring firm to be listed and both bidder and target to be pure insurance companies. Therefore we exclude from our analysis conglomerates which cannot be identified as merely insurance companies. That happens to coincide mostly with Japanese companies.

We searched for M&A deals on the Financial Times CD-ROM. In order to select events that can have a significant impact on the economics of the bidder, we further require the ratio between the deal value and the market value of acquiring firm to be greater than 2%. That implies that we exclude a large number of small UK mergers as well as deals involving partners of Eastern Europe and Latin America since of smaller relative size. We are finally left with insurance companies located in the US, Europe and Australia<sup>5</sup>.

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<sup>4</sup> Unless noted otherwise, throughout the paper, the terms merger, acquisition and takeover are used interchangeably.

<sup>5</sup> Our final sample classified according to the country where the acquiring firm is located is formed by 20 mergers from the US, 15 from the UK, 6 from Germany, 5 from Switzerland, 3 from Australia, 3 from France, 2 from Italy, 1 from Netherlands, 1 from Ireland. Considering the target company, our sample

For each deal we also require the acquisition price, the announcement date and the regulatory approval date to be known. The announcement date is the date the merger is officially released to the general public. For a takeover, the announcement date is the date the management of the target firm accepts the proposal. For a merger the announcement date is the date of the agreement between the two parties. Mergers in the financial industry are subject to the approval of the regulating and the antitrust authorities. We then include in our sample all events that received the approval by the authorities.

We also collected the following data: stock market prices, which are taken from Datastream database, bidder and target country, method of payment (cash, stock swap or mix), sub-industry in which each insurance company operates. We therefore distinguish between life, reinsurance and other companies.

As a result of our design, the final sample consists of 56 deals. In table 2 we present the summary statistics of our final sample (all values are in millions of dollars converted at the exchange rate of the event date).

[Insert table 2 about here]

Over our time period, M&A deals in the insurance industry totaled almost 200 billions dollars. The striking figure is the greater size of our deals compared to other studies. The mean value of the merger deal is 3.289 billions of dollars (the median is 1.4 billions). In Becher (2000) the mean value of the US bank mergers that occurred from 1995 to 1997 is about 0.6 billion dollars and in Cybo-Ottone and Murgia (2000) is about 1.61 billions for European banking deals over the mentioned time period. By construction, all the M&A deals have a substantial impact on the acquiring firm since on average the price to market value ratio is about 32%.

#### 4. Event study analysis

To gauge insights on the value enhancement of insurance mergers, we perform an event study analysis. The abnormal return on stock  $i$  over a period  $(t_1-t_2)$  ( $AR_i(t_1-t_2)$ ) is computed as a buy and hold return and is measured by:

$$AR_i(t_1 - t_2) = R_i(t_1 - t_2) - R_m(t_1 - t_2)$$

where  $R_i(t_1-t_2)$  and  $R_m(t_1-t_2)$  are the returns over the period  $(t_1-t_2)$  on the stock  $i$  and on the benchmark portfolio respectively<sup>6</sup>. Abnormal returns are then averaged across the  $N$  companies in the sample.

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includes 27 insurance companies from the US, 17 from the UK, 3 from Germany, 3 from Italy, 2 from France, 2 from Ireland, 1 from Belgium and 1 from Spain.

<sup>6</sup> We did not calculate abnormal returns using the market model, since the beta can be influenced by the information leakage beginning weeks before the merger is announced. If we extend the estimation period in order to by-pass the mentioned problems, then the beta is unlikely to be stable.

As benchmark portfolio we construct an index as the weighted average of the Datastream life insurance world (DSLIFEWD) and the Datastream Insurance World (DSINSWD)<sup>7</sup>. Each index is weighted by its daily capitalization.

Since merger talks usually begin weeks before the acquisition is announced, in order to take into account any information leakage prior to the announcement date or any market anticipation of the acquisition, we estimate abnormal returns over a window of 201 days (-100, +100). Since no abnormal returns are on average detected over (-100,-40) and (+40,+100) windows, we limit our analysis to a period of length 81 days (-40, +40).

Abnormal returns for the combined firm (i.e. bidder plus target) are determined as:

$$\text{combined abnormal return} = \frac{MV_b \cdot AR_b + MV_t \cdot AR_t}{MV_b + MV_t}$$

where  $MV_b$  and  $MV_t$  are market values (i.e. capitalization) of bidder and target respectively at the day before the announcement date, while  $AR_{b,t}$  are the abnormal returns.

To test for significance of results we calculate a t-test on mean and report the related p-value and perform a Wilcoxon sign test on the median and report the related p-value.

## 5. The valuation effects for the acquiring insurance companies

### 5.1. The results for the acquiring insurance companies

In table 3 we present the abnormal returns for our sample of 56 acquiring firms over different windows.

[Insert table 3 about here]

Results for the acquiring firms are remarkable. Abnormal returns for the acquiring firms are all positive, regardless of the event window over which they are measured. On the announcement date, the abnormal return, though positive, is not statistically significant, since the announcement of the reached merger agreement is not a complete surprise to the investors<sup>8</sup>. Prices seem to incorporate all relevant information

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<sup>7</sup> We also computed abnormal returns using local indexes and sub-industry indexes (Life and non-life) as a benchmark. The results, which are not reported in the paper, do not differ in sign from those reported in this paper, though they are less statistically significant. That is probably due to the “acquisition probability hypothesis”. As Song and Walking (2000) argue, the merger event can increase the probability of other companies of being target in deals and thus they show an increase in their market value. In effect also the global insurance index seems to be moderately affected by the merger event. On day 0 the return on our insurance benchmark is 0.20% (p-value 0.0034), while over the 200-days event window (from -100 to +100, excluding 0) returns in only 10 days are statistically significant at 5% level.

<sup>8</sup> Besides the acquisition probability hypothesis seems to hold on day 0.

over a (-20,+2) event window. In fact, over such 24-day event window, insurance bidders experience an increase in value of 3.65% (p-value 0.01). The fact that abnormal returns are significantly positive over the two days following the announcement is not surprising. Some mergers are announced on day 0 after the closing of the stock exchange, and in the days immediately after the announcement, merging partners often release further details on the deal. The post announcement abnormal returns are not significantly different from 0, so the market does not show any overreaction to the event.

Our results sharply contrast with most empirical literature on banking sector. For instance, Cybo-Ottone and Murgia (2000) over a similar event window (-20,+0) find a positive but insignificant abnormal return of 0.31% for bidder banks, while Becher (2000) over an 11-day event window (-5,+5) finds that bidders significantly lose value (-0.88%)<sup>9</sup>.

Our evidence suggests that, in the recent past, mergers in the insurance industry have increased shareholders' wealth, which supports the theoretical hypothesis that mergers are driven by synergies.

## *5.2. Factors explaining the cross-sectional variation in the results*

In order to achieve a better understanding of the valuation effects on the bidder, we perform a sub-sample analysis. We classify our merger deals according to different factors that can help explain the cross-sectional variation in the results.

We then distinguish our sample according to the method of payment, the geographic location of merging partners, the business segment in which merging partners operate. The summary statistics are presented in table 4.

[Insert table 4 about here.]

In panel A we classify our sample according to the method of payment. The theoretical motivation for the relevance of the method of payment relies on the asymmetric information on the bidder's or target's value. For instance, if bidding firm's managers possess private information which is temporarily not reflected in the share price, they will tend to finance the acquisition with the most convenient mean. Hence mergers financed with stocks are a negative signal since the use of stocks as a mean of payment is likely to occur when the stock is overvalued, while the use of cash is

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<sup>9</sup> However Cybo-Ottone and Murgia's (2000) results are sensitive to the index used as a benchmark. In fact significant positive abnormal returns are not confirmed when switching from the General Market index to the Bank Sector index. Becher's (2000) results are sensitive to the event window. His results suggest that over the window (-30,+5) bidders break even, while over the shorter event window (-5,+5) bidders lose value.



interpreted as the firm being undervalued. On the other hand, if target shareholders believe their company is overvalued, they will prefer to receive cash<sup>10</sup>.

Our data reveal that cash is employed exclusively as a mean of payment in smaller deals, while in deals that involve firms of almost equal size, the payment of the acquisition is made with stocks.

Panel B distinguishes the bidders according to their geographic location. European insurance companies have been more active in the M&A process and on average are involved in larger deals, though the relative importance of the merger for the acquiring firm is less than that for the US based insurance companies.

In panel C we distinguish between domestic and international deals. Precisely we define a domestic European deal (EU-D) or a domestic US deal (US-D) as a merger occurring inside national boundaries. International deals can be of two types: they can involve European companies of different countries (EU-I) or they can involve companies of different continents (I). International mergers account for 46% of our events. Our data show that acquiring firms involved in international deals tend to be larger in size than those that compete on domestic markets. However domestic deals mostly occur between companies of similar size, while in international deals the target is smaller in size than the bidder.

Finally panel D presents the classification of bidders according to their business activity. The classification should proxy the degree of overlap between bidder and target firms' operations. Special emphasis is given to life and reinsurance companies, since the first business segment has undertaken profound changes in recent years, especially in Europe due to the enlargement of the European market as well as to social security and private pensions reforms, while the other business segment has recently gone through a restructuring process due to the increase of catastrophic losses.

A deal is classified as life if the target firm is a life insurance company and the bidder, though diversified, has a substantial interest in the life business. A reinsurance deal involves a bidder and a target which both are reinsurance companies or a target which is a reinsurance company and a diversified bidder with a relevant interest in the reinsurance business. "Other" includes all transaction that cannot be classified according to the mentioned criteria, i.e. deals that involve property and liability insurance companies and diversified companies. Property and liability insurance companies in our sample are also diversified firms. So we consider the sub-samples of merging partners that are either life or reinsurance companies as an (imperfect) proxy of firms focusing their activity, while the sub-sample of "other" companies proxies firms diversifying their activity. As shown in Panel D, life insurance and reinsurance companies are the biggest players in the consolidation process, and they tend to acquire targets of smaller size.

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<sup>10</sup> For a more comprehensive analysis of the effects of the method of payment on abnormal returns see, among others, Travlos (1987), Martin (1996) and Houston and Ryngaert (1997).

For each explaining factor, we compute abnormal returns over a 24-day period (-20,+2). To test for significance we perform a t-test on mean and a Wilcoxon test on median and report the related p-value. We also compute a test to check if the mean (and median) values of two sub-samples are significantly different from each other (the statistic is not reported in the table but is available upon request). The results are presented in table 5.

[Insert table 5 about here]

Focusing on the method of payment (Panel A), our findings contradict previous evidence. Empirical studies on financial mergers (Houston and Ryngaert (1997), Becher (2000)) document that mergers financed with stock experience a more pronounced decrease in value compared to those financed with cash or with a mix of cash and stocks. In our sample, abnormal returns for mergers financed exclusively with stocks (which represent 25% of total deals) are positive and significantly different from zero. The difference in medians between the sub-sample of stock mergers versus mergers financed either with cash only or with a mix is statistically significant (p-value 0.046). However we suspect that positive results for stock mergers mask other factors, namely the relative size of the deal, since merger financed with stocks involve larger partners. The point will be made clear in the next section.

In panel B the sample is divided according to the geographic location of the acquiring firms. Abnormal returns tend to be higher for US based insurance companies, though the differences between the two sub-samples are not statistically significant.

Interesting findings emerge from Panel C. The classification of companies tends to distinguish between domestic and cross-border deals (either cross-country or cross-continent). Domestic acquisitions on the US market (US-D) create value for bidding shareholders, while mergers within national European boundaries (EU-D) experience a negative abnormal return (though not statistically significant). The median difference between the sub-sample of EU-D versus the rest of mergers is moderately significant (p-value 0.06).

In-country European mergers are not a value-increasing event for the bidder shareholders. A plausible explanation may rely on the fact that the merger is perceived as a defensive strategy while the future market on which to compete will be pan-European. That can be especially true if the merger involves big players and our sample includes larger companies than other studies on banks<sup>11</sup>. Hence opportunities for geographic expansion lead to expectations of increasing benefits for the bidder shareholders.

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<sup>11</sup> The negative impact at the announcement date may otherwise reflect the uncertainty about the antitrust approval of the deal.

In panel D companies are partitioned according to the business segment in which they focus. Shareholders of reinsurance companies gain most from merger activity. Consolidation activity seems a viable answer to the shocks faced by the reinsurance sector in recent years<sup>12</sup>. Abnormal returns for mergers of life insurance partners are also significantly positive. Such evidence suggests that “focusing” mergers on average seem more profitable than mergers in which bidder and target operate in different businesses. That is consistent with the results for banks reported in De Long (2001), documenting that mergers that focus activity create value for the combined shareholders and shareholders of bidding banks do not lose value.

### 5.3. Regression results

We further gauge more insights on our data set by performing a step-wise regression analysis.

Abnormal returns on (-20,+2) window are first regressed against a full set of independent variables. The log of bidder market values is used as a proxy for the size of the acquiring firm. The relative importance of the merger is measured by the (log) ratio between the deal value and the bidder market value. The influence of the method of payment is expressed by the percentage of cash used to finance the acquisition. We then use a set of dummy variables to account for the geographic location of bidder and target, the sub-industry in which the merging partners operate. Results are presented in table 6.

[Insert table 6 about here]

We observe a significantly positive relation between abnormal returns and the relative importance of acquisition. The increase in wealth for bidder shareholders is primarily explained by the impact of acquisition on the economics of the acquiring firms and the abnormal returns for shareholders are larger the greater the relative importance of the deal. Previous literature has shown that if on average bidders engage in value-reducing deals, then the loss in value for bidding shareholders tend to increase the larger the relative size of the deal, as in Houston and Ryngaert (1994 and 1997). If on average mergers create wealth for bidder shareholders, then the results tend to be positively related to the relative size of merging partners (like in our study and in James and Wier (1987))<sup>13</sup>.

As previously stated, mergers that involve European partners both located within the same country destroy value, and shareholders of reinsurance companies acquiring firms in the same business increase their wealth (though the coefficient is not statistically significant). Abnormal returns seem unrelated to the mean of payment.

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<sup>12</sup> The impact of industry shocks on merger activity is well documented by Mitchell and Mulherin (1996).

<sup>13</sup> A positive relation between abnormal returns and relative size is also documented in De Long (2001), though the regression is run on combined bank abnormal returns, not on bidder returns.

## **6. The results for the sub-sample of listed targets and bidders**

In this section we consider a sub-sample of matched pairs in which the target is also listed. That allows us to value the merger effects on the bidder and target separately and on the combined insurance company. Table 7 presents the summary statistics of our sub-sample.

[Insert table 7 about here]

The sub-sample includes 24 events. The acquisitions amounted to more than 142 billion dollars. Bidding firms are larger in size than the overall sample and the relative importance of the acquisition is also slightly greater.

Table 8 shows abnormal returns for target firms, bidding firms and the combined firms respectively. Results are also plotted in figure 1.

[Insert table 8 about here.]

As expected and consistent with results in previous studies, a merger increases substantially the wealth for target shareholders. In all event windows we find a highly positive abnormal return. Over the event window (-20,+2) the target abnormal return is 18.22% (p-value 0.0002). The abnormal returns for the sub-sample of bidding insurance companies are not dissimilar to those reported in the overall sample. Over the event window (-20,+2), abnormal returns for bidders are positive and significant, though the increase in wealth is slightly less than that reported for the whole sample of 56 deals. Also the combined insurance companies experience significantly positive abnormal return. Over the event window (-20,+2) the abnormal return is 5.27% (p-value 0.0005).

[Insert figure 1 about here]

The literature on bank mergers has shown that on average merged bank are expected to create value, but that happens at the expenses of bidder shareholders. The insurance industry shows a different pattern: mergers are not the result of a wealth-transfer from bidder to target's shareholders.

We then control for the impact on combined firms' abnormal returns of factors previously identified as potential explanations in the variation of returns. Results are presented in table 9.

[Insert table 9 about here.]

Abnormal returns for the combined insurance companies are not driven by a specific factor. Therefore factors that helped explain bidder returns in isolation, do not have explanatory power on returns for the combined insurance companies. Despite results may be distorted by the small number of observations, the wealth enhancement is positive and significant across all sub-samples and the combined abnormal returns show little variation across companies.

## **7. Summary of results and conclusions**

The great pace of merger activity that has involved financial institutions in recent years has attracted quite interest. With this study we contribute to the understanding of wealth effects in financial mergers. Namely we focus our research on insurance companies, that have not received adequate scrutiny so far, though being quite active in the consolidation process.

We examine 56 merger deals that occurred over the period 1996-2000 and try to address the question of why mergers on average do not seem to create value for bidder shareholders. In order to detect the valuation effects of the acquiring firms, we select our sample according to the relative importance of the deal for the bidder, as measured by the ratio between the value of the deal and the market value of the acquiring firm.

In sharply contrast with previous literature on financial mergers, we find that bidder shareholders increase their wealth. Besides, the abnormal returns tend to be larger the greater the impact of deal value on bidder value. It seems than plausible that mergers in the insurance industry are mainly motivated by synergistic reasons rather than by management self-interest.

In fact, when we try to detect the driving factors of abnormal returns, we find that deals in which both merging partners are either reinsurance or life insurance companies tend to be more value-enhancing.

Most peculiar is the fact that mergers within national European boundaries are not perceived as a value-increasing event for the bidder shareholders. That contrasts with previous evidence on banks, suggesting that domestic deals tend to benefit more their shareholders. The deregulation of the European market, the creation of the European Union as well as social security and private pensions reforms design a future pan-European market. With this respect, in-country acquisitions may be viewed as a defensive strategy and be punished by the market.

The analysis of a sub-sample of simultaneously listed targets and bidders – besides confirming the findings on bidder shareholders wealth – shows that target shareholders returns are significantly positive and the overall gains for the combined firms are also positive and significant. The results for the combined firms are consistent across all sub-samples and do not appear to be driven by a specific factor.

The positive wealth effects in insurance companies mergers with respect to banks raise interesting issues for future research. It is possible that the consolidation

process in the insurance industry leads to larger increases in market power compared to banks, though that does not seem the case for “in-country” European mergers. Another reasonable hypothesis is linked to the different nature of risks in insurance and banking. The consolidation process in the insurance industry allows to diversify risks also when merging partners operate in the same business segment, since actuarial risks are predominantly diversifiable<sup>14</sup>. On the other way, risks usually undertaken by banks (like interest rate risks and credit risks) are predominantly of systematic nature, hence banks have to expand their activities in different businesses in order to diversify such risks. Therefore the consolidation process in the insurance industry allows to extract the benefits of diversification without the need to create conglomerates, avoiding the related negative effects.

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<sup>14</sup> See Babbel and Santomero (1997).

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**Table 1 - Valuation effects in financial institutions' mergers**

Author	Industry	Country	period	Sample	Event window	bidder CARs (%)	Target CARs (%)	combined CARs (%)
De Long (2001)	Banking	USA	1988-1995	280	-10+1	-1.68***	16.61***	0.04
Becher David (2000)	Banking	USA	1980-1997	558	-30+5	-0.1	22.64***	3.03***
			1980-1985	79	-30+5	-0.08	21.84***	4.42***
			1986-1990	145	-30+5	-2.14***	20.49***	0.86
			1991-1997	334	-30+5	0.06	23.68***	3.53***
Cybo-Ottone and Murgia (2000)	Banking	Europe	1988-1997	54	-20+0	0.31	16.63***	4.49***
Pilloff (1996)	Banking	USA	1982-1991	48	-20+0	n.a.	n.a.	1.32
Houston and Ryngaert (1994)	Banking	USA	1985-1991	153	-2+2	-2.32***	14.39***	0.38
Cornett and Tehranian (1992)	Banking	USA	1982-1987	30	-1+0	-0.80**	8.00***	n.a.
Cornett and De (1991)	Banking, interstate	USA	1982-1986	152	-1+0	0.55***	8.10***	n.a.
Baradwaj, Fraser and Furtado (1990)	Banking	USA	1980-1987	24 hostile	-2+2	-2.07***	18.81***	n.a.
				30 non hostile	-2+2	-2.12***	12.21***	n.a.
James and Wier (1987)	banking	USA	1972-1983	60	-4+0	1.77***	n.a.	n.a.
Neely (1987)	banking	USA	1979-1985	26	-10+0 (week)	1.25	31.26***	n.a.

\*\*\* indicates significance at 1% level, \*\* indicates significance at 5% level,\* indicates significance at 10% level.



**Table 2 - Summary statistics of acquiring firms' sample**

<b>Panel A - Overall sample of acquiring firms (56 events)</b>							
<b>Bidder MV (million \$)</b>			<b>Target price (P) (million \$)</b>			<b>P/MV (%)</b>	
<b>Mean</b>	<b>Median</b>	<b>Total</b>	<b>Mean</b>	<b>Median</b>	<b>Total</b>	<b>Mean</b>	<b>Median</b>
17,476	11,078	978,669	3,289	1,400	184,191	32.5	17.2
<b>Panel B - Year</b>							
	<b>n. obs.</b>	<b>Bidder MV (million \$)</b>		<b>P/MV (%)</b>			
		<b>Mean</b>	<b>Median</b>	<b>Mean</b>	<b>Median</b>		
1996	15	7,614	4,592	32.3	17.7		
1997	8	17,645	11,811	22.9	20.7		
1998	13	27,707	12,769	22.6	11.7		
1999	13	20,336	7,491	31.0	10.9		
2000	7	14,105	8,845	65.2	11.6		

*This table provides summary statistics for the sample of 56 insurance merger deals that occurred between 1996 and 2000. Insurance mergers are completed acquisitions of insurance companies that were identified from the Financial Times CD-ROM. Stock market prices are taken from Datastream database. All values are in dollars. Local values are converted into dollars at the exchange rate of the event date. The value of the merger is the overall price paid for the acquisition. The relative target-to-bidder ratio (P/MV) is defined as the ratio between the value of the merger (P) and market value of the acquiring firm (MV). The market value of the acquiring firm is computed at the event date.*

**Table 3 - Abnormal returns (56 events)**

Event windows		Abnormal return (%)		% AR	p-value	
From	To	Mean	Median	<0	Mean	Median
-40	40	3.40	3.44	35.7	0.12	0.07
-20	20	2.64	1.50	42.9	0.08	0.09
-10	10	2.27	1.50	35.7	0.07	0.05
-5	5	2.63	1.96	44.6	0.04	0.01
-1	-1	0.68	0.25	39.3	0.02	0.02
0	0	0.65	0.02	50.0	0.33	0.59
-40	-21	0.15	0.62	44.6	0.87	0.60
-20	2	3.65	2.56	32.1	0.01	0.00
3	40	-0.76	-1.67	58.9	0.53	0.54

*The sample consists of 56 acquiring insurance companies that were involved in a merger over 1996-2000. Abnormal returns (AR) are computed as buy-and-hold market excess returns. Day 0 is the announcement date. P-values used to indicate whether the mean is statistically different from zero are based on the t-test; p-values used to indicate whether the median is statistically significant from zero are based on the Wilcoxon sign test.*

**Table 4 - Summary statistics of explaining factors (n. of obs. = 56)**

<b>Panel A - Method of payment</b>					
	<b>n. obs.</b>	<b>Bidder MV (million \$)</b>		<b>P/MV (%)</b>	
		<b>Mean</b>	<b>Median</b>	<b>Mean</b>	<b>Median</b>
Stock (S)	14	20,602	7,605	41.6	23.3
Cash (C)	32	13,861	8,168	30.0	11.3
Mix	10	24,670	15,223	27.6	16.2
<b>Panel B - Geographic location</b>					
EU	33	19,717	15,018	25.2	14.7
US	20	15,538	6,537	45.5	16.7
AU	3	5,751	1,915	26.3	28.5
<b>Panel C - Domestic vs. international deals</b>					
EU - D	11	11,728	12,769	54.5	50.8
US - D	19	16,024	6,770	47.4	18.6
EU - I	13	22,331	15,395	8.4	6.4
I	13	19,607	13,687	16.1	17.1
<b>Panel D - Sub-industry</b>					
Life	21	19,205	12,147	23.8	14.7
Reins.	11	22,506	15,395	14.1	11.7
Other	24	13,659	5,637	48.5	22.0

*The sample of 56 merger deals is divided according the potential explaining factors. In Panel A bidding firms are divided according to the method of payment, in Panel B according to the geographic location of the bidder, hence EU, US and AU refer to bidders located in Europe, United States and Australia respectively. In Panel C the sample is split according to the geographic location of merging partners, hence EU-D refers mergers involving European partners located within the same national boundaries; US-D refers to mergers between US insurance companies, EU-I indicates cross-border mergers on the European market, I stands for international mergers, i.e. cross-continent deals. Panel D divides the sample according the activity of the merging partners. Hence life includes all companies that focus their activity in the life insurance business, reinsurance refers to acquisitions involving reinsurance companies and other includes property and liability insurance companies as well as all diversified companies.*

**Table 5 - Abnormal returns (-20,+2) for different types of events (n. of obs. = 56)**

	n. obs	Abnormal return (%)		% AR <0	p-value	
		Mean	Median		Mean	Median
<b>Panel A - Method of payment</b>						
Stock (S)	14	5.74	5.96	14.3	0.00	0.00
Cash (C)	32	3.62	1.97	37.5	0.11	0.12
Mix	10	0.84	1.58	40.0	0.73	0.61
<b>Panel B - Geographic location</b>						
EU	33	1.71	1.94	36.4	0.19	0.13
US	20	5.89	3.13	25.0	0.06	0.01
<b>Panel C - Domestic vs. international deals</b>						
EU - D	11	-0.21	0.84	45.5	0.92	0.89
US - D	19	5.87	2.92	26.3	0.07	0.01
EU - I	13	4.23	5.58	30.8	0.09	0.06
I	13	3.12	2.74	30.8	0.28	0.36
<b>Panel E - Sub-industry</b>						
Life	21	3.13	2.78	33.3	0.04	0.03
Reins.	11	4.66	2.92	9.1	0.00	0.01
Other	24	3.66	1.49	41.7	0.23	0.38

*The sample consists of 56 acquiring insurance companies that were involved in a merger over 1996-2000. Abnormal returns are computed as buy-and-hold market excess returns. AR (-20,+2) are then averaged for each group. P-values used to indicate whether the mean is statistically different from zero are based on the t-test; p-values used to indicate whether the median is statistically significant from zero are based on the Wilcoxon sign test.*

**Table 6 - Regression results for abnormal returns (-20 +2) (n. of obs. = 56)**

Independent variable	Coefficients		
	I	II	III
Intercept	-22.715	-22.272	0.005
Year	0.011	0.011	
Log(MV)	-0.003		
Log(1+PV/MV)	0.249***	0.243***	0.210***
% CASH	-0.022		
EU-I	-0.095**	-0.078***	-0.093***
EU-X	0.037	0.040	
US-I	-0.024		
RE	0.054	0.049	
LF	0.033	0.029	
R <sup>2</sup> adj.	27.0%	30.2%	28.6%
p-value	0.0038	0.0005	0.0000

*The table presents coefficient estimates from cross-sectional ordinary least squared regression analysis. The sample consists of 56 acquiring insurance companies that were involved in a merger over 1996-2000. Abnormal returns are computed as buy-and-hold market excess returns. Abnormal returns over a 24-day window (-20,+2) are regressed against the year of acquisition, the bidder size (log of bidder market value), the relative size of the deal (log(1+P/MV)), the percentage of cash used to finance the deal (% CASH), a set of dummy variables to account for the extra-effect of the geographic location of the merging partners being different than that whose partners are located within the same national boundaries (EU-I, EU-X, US-I), a set of dummy variables to account for the extra-effect of the mergers being different than those included in the "other" category.*

*\*\*\* statistically significant at 1% level; \*\* statistically significant at 5% level; \* statistically significant at 10% level.*

**Table 7 - Summary statistics for a sub-sample of listed targets and bidders**

<b>Panel A - Sub-sample of listed targets and bidders (24 events)</b>							
<b>Bidder MV (million \$)</b>			<b>Target price (P) (million \$)</b>			<b>P/MV (%)</b>	
<b>Mean</b>	<b>Median</b>	<b>Total</b>	<b>Mean</b>	<b>Median</b>	<b>Total</b>	<b>Mean</b>	<b>Median</b>
26,173	12,820	628,155	5,922	3,280	142,124	33.7	18.1
<b>Panel B - Types of events (n. of obs. = 24)</b>							
<b>Stock</b>	<b>Cash</b>	<b>Mix</b>					
10	8	6					
<b>EU</b>	<b>US</b>	<b>AU</b>					
16	7	1					
<b>EU - D</b>	<b>US - D</b>	<b>EU - I</b>	<b>I</b>				
6	7	5	6				
<b>Life</b>	<b>Reins.</b>	<b>Other</b>					
8	6	10					

*The sample consists of 24 simultaneously listed bidder and target insurance companies that were involved in a merger over 1996-2000. Insurance mergers are completed acquisitions of insurance companies that were identified from the Financial Times CD-ROM. Stock market prices are taken from Datastream database. All values are in dollars. Local values are converted into dollars at the exchange rate of the event date. The value of the merger is the overall price paid for the acquisition. The relative target-to-bidder ratio (P/MV) is defined as the ratio between the value of the merger (P) and market value of the acquiring firm (MV). The market value of the acquiring firm is computed at the event date. In panel B the sample of the acquiring firms is divided according to the method of payment, the geographic location of the acquiring firms, the geographic location of the merging partners, the sub-industry in which merging partners operate.*

**Table 8 - Abnormal returns for a sub-sample of listed targets and bidders (24 events)**

<b>Panel A - Abnormal returns for target insurance companies</b>						
<b>Event windows</b>		<b>Abnormal return (%)</b>		<b>% AR</b>	<b>p-value</b>	
<b>From</b>	<b>To</b>	<b>Mean</b>	<b>Median</b>	<b>&lt;0</b>	<b>Mean</b>	<b>Median</b>
-40	40	18.80	13.03	20.8	0.00	0.00
-20	20	17.42	9.88	25.0	0.00	0.00
-10	10	16.07	13.83	20.8	0.00	0.00
-5	5	12.48	4.98	33.3	0.01	0.01
-1	-1	2.26	0.53	41.7	0.20	0.13
0	0	3.97	-0.44	50.0	0.11	0.11
-20	2	18.22	11.83	20.8	0.00	0.00
<b>Panel B - Abnormal returns for bidding insurance companies</b>						
-40	40	3.23	2.99	41.7	0.26	0.13
-20	20	2.84	1.80	37.5	0.07	0.05
-10	10	2.25	1.50	33.3	0.15	0.06
-5	5	1.74	1.96	45.8	0.21	0.11
-1	-1	1.26	0.97	33.3	0.02	0.02
0	0	-0.14	0.01	50.0	0.89	0.97
-20	2	3.85	3.24	25.0	0.02	0.00
<b>Panel C - Abnormal returns for combined insurance companies</b>						
-40	40	5.06	5.07	29.2	0.07	0.01
-20	20	4.26	3.82	20.8	0.01	0.00
-10	10	3.75	3.12	20.8	0.01	0.00
-5	5	2.75	2.97	37.5	0.02	0.01
-1	-1	1.21	0.70	33.3	0.02	0.01
0	0	0.18	-0.32	50.0	0.85	0.97
-20	2	5.27	5.55	12.5	0.00	0.00

*The sample consists of 24 simultaneously listed bidder and target insurance companies that were involved in a merger over 1996-2000. Abnormal returns for bidders and targets are computed as buy-and-hold market excess returns. Abnormal returns for the combined insurance company are computed as buy-and-hold market excess returns and weighted by the market value of the merging partners. Day 0 is the announcement date. P-values used to indicate whether the mean is statistically different from zero are based on the t-test; p-values used to indicate whether the median is statistically significant from zero are based on the Wilcoxon sign test.*

**Table 9 - Abnormal returns (-20,+2) for the sub-sample of listed targets and bidders (n. of obs. = 24)**

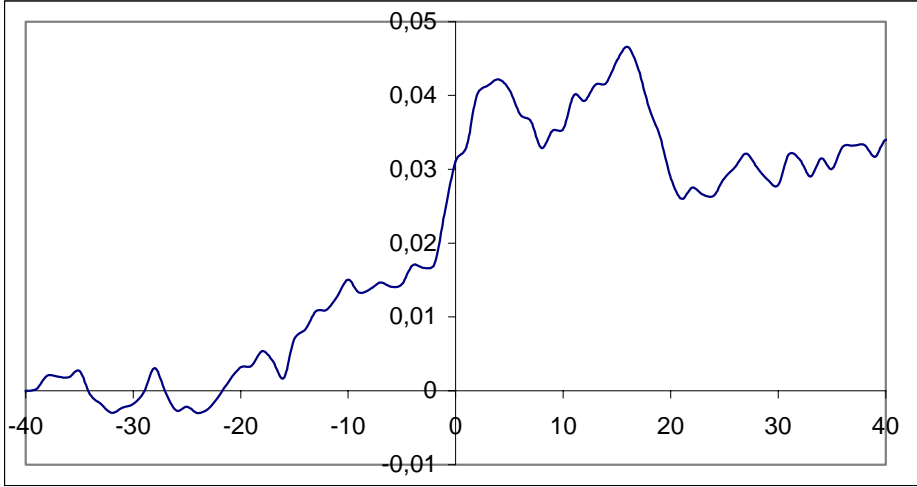
	n. obs	Mean abnormal return (%)			Median abnormal return (%)		
		Bidder	Target	combined	Bidder	Target	combined
<b>Panel A - Method of payment</b>							
Stock (S)	10	4.94	15.33	6.32	4.24	16.39	5.37
Cash (C)	8	4.11	15.42	4.67	3.79	9.68	5.11
Mix	6	1.60	26.76	4.33	1.58	20.43	5.79
<b>Panel B - Geographic location</b>							
EU	16	2.08	14.87	3.45	1.77	8.80	5.55
US	7	5.06	27.21	7.37	2.92	26.84	5.18
<b>Panel C - Domestic vs. international deals</b>							
EU - D	6	2.62	9.44	4.63	1.19	7.38	5.58
US - D	7	5.06	27.21	7.37	2.92	26.84	5.18
EU - I	5	3.65	4.68	3.43	5.58	8.83	4.69
I	6	3.75	27.78	5.01	2.78	26.52	6.36
<b>Panel D - Sub-industry</b>							
Life	8	2.86	24.34	5.54	3.17	28.53	5.55
Reins.	6	5.73	20.56	7.05	4.92	21.56	6.62
Other	10	3.46	11.92	4.00	1.49	8.85	3.29

*The sample consists of 24 simultaneously listed bidder and target insurance companies that were involved in a merger over 1996-2000. Abnormal returns for bidders and targets are computed as buy-and-hold market excess returns. Abnormal returns for the combined insurance company are computed as buy-and-hold market excess returns and weighted by the market value of the merging partners. Abnormal returns over the event window (-20,+2) are then averaged across companies in each group.*

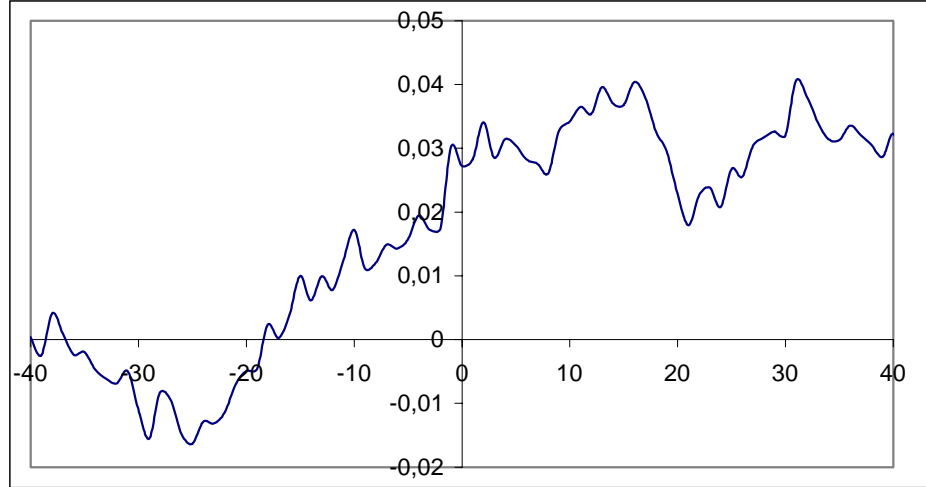


**Figure 1 - Cumulative abnormal returns for insurance companies' mergers**

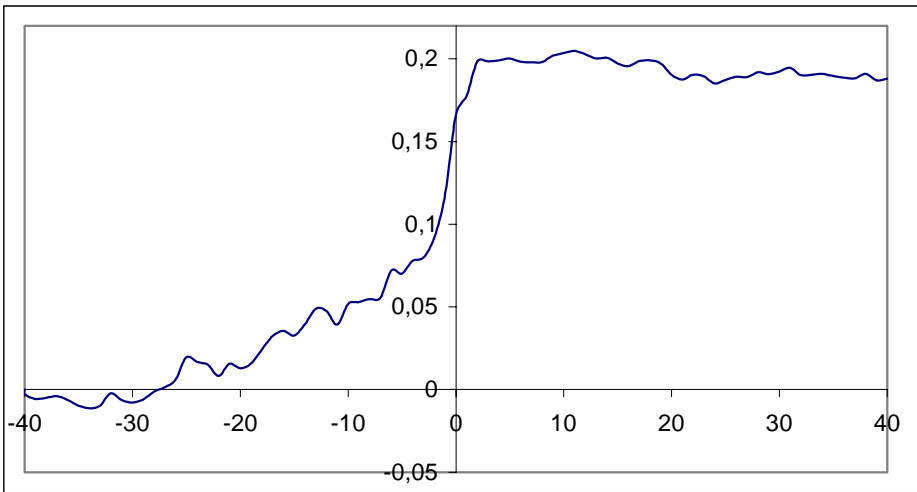
**Panel A - Bidder 56**



**Panel B - Bidder 24**



**Panel C - Target**



**Panel D - Combined**

