

Implications of Corporate Diversification and Focus Strategies

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Abstract

This study investigates the motivations for diversification and focus strategies and the impact of these strategies on the performance and capitalization of acquirers. Using a sample of acquisitions of property-liability insurers, the study investigates the potential role of the factors underlying the decision to diversify or focus on the ultimate impact of the selected strategy. Insurers represent an attractive sample due to the extensive financial data that are available. Prior studies in this area do not control for the factors underlying the decision to diversify or focus. When we use this traditional approach, our results are consistent with prior studies. Namely, we find that diversification strategies are related to increases in the acquirers' operating margin and overall capitalization. However, when we properly control for the factors that motivate firms to select a specific strategy, we find no relation between the focus or diversification strategy and the acquirers' post-acquisition performance and capitalization. Our results support the view that acquirers self-select a particular diversification or focus strategy based on their needs and strengths. This suggests that it is the selection of the appropriate strategy for the right firm that enhances value rather than a specific strategy (diversification or focus) being a superior strategy for all firms. Our findings provide at least a part of the explanation for the conflicting results of prior studies concerning the relative value of diversification or focus strategies.

Key words: Property-liability insurance, Treatment effects model, Self-selection bias, Acquisitions, Diversification, Focus.

JEL Classification: C30, G22, G34, L11.

Implications of Corporate Diversification and Focus Strategies

I. Introduction

The value enhancing potential of diversification and focus strategies has been the topic of a continuing debate in both the academic literature and the trade press. Based on various samples and time periods that they considered, prior studies have found conflicting results on the value enhancing nature of these strategies.¹ This paper investigates both the motivations for diversification or focus strategies and the impact of these strategies on the performance and capitalization of the acquirers.

The insurance industry is chosen for this study due to the nature of acquisitions during the sample period and the extensive financial data available. An examination of insurance acquisitions in the 1990's reveals a mix of diversification and focus acquisitions over the sample period rather than a trend toward diversification or focus in the industry. This allows us to study the impact of diversification and focus strategies in the same time period and industry, thereby reducing possible confounding effects related to different economic conditions, inter-industry differences, and potential herd behavior.

Extensive reporting requirements in the insurance industry allow us to create a refined definition of diversification and focus based on the lines of business sold by the acquirers and targets. This definition allows for the detection of diversification both into and within the property-liability insurance industry. Prior studies using definitions based on Standard Industrial Classification (SIC) codes only detect diversification into a new industry. The definition used in

¹ Several authors found value enhancing motivations for diversification in studies based on sample periods in the late 60's and early 70's (e.g. Hubbard and Palia, 1999 and Matsusaka, 1993). Studies based on more current samples have shown that corporate focus increases firm value (e.g. Comment and Jarrell, 1995; Berger and Ofek, 1995; Lang and Stulz, 1994; John and Ofek, 1995; and Denis, Denis, and Sarin, 1997).

this paper reclassifies over half of the acquisitions that the SIC code definition would have classified as focus acquisitions.

Prior studies in this area have generally focused either on the motivations for diversification and focus strategies or on the impact of the strategies. Our study recognizes that the implications of diversification and focus should be modeled as a two-stage process. First, the motivations underlying the decision to use a diversification or focus strategy are modeled. Second, the impact of that strategy is analyzed in light of the factors that motivated the selection of the strategy. Failure to control for the fact that acquirers might self-select into the use of diversification or focus strategies leads to potential bias in the interpretation of the impact of the strategies. This potential bias may offer a partial explanation for the often-conflicting results related to the impact of diversification or focus strategies on firm performance and capitalization found in prior studies.

The results related to the acquirer's decision to diversify or focus are consistent with the traditional motivations for diversification and focus. Based on the pre-acquisition needs and strengths of the acquirers, firms appear to self-select into the use of diversification or focus strategies. For example, firms that would benefit from a reduction in expected future tax liabilities tend to engage in diversification acquisitions. Additionally, firms with low pre-acquisition levels of liquidity tend to utilize diversification transactions. Motivated by a potential reduction in earnings volatility achieved with diversification, these firms can reduce their expected tax liabilities and support lower levels of liquidity. The more efficient acquirers, which are better able to deal with the increased agency costs associated with diversification, are the firms that appear to enter diversification transactions.

For the data in our sample, diversification strategies are associated with increases in the overall performance and capitalization of the acquirers when the factors motivating the decision to diversify or focus are not controlled for. However, when the factors that influenced the acquirer's decision to diversify or focus are controlled for, then the diversification or focus aspect of the acquisition does not appear to have a significant impact on the capitalization or performance of the acquirer. This supports the view that it is the selection of the proper strategy for the right firm that enhances value rather than the idea that use of a general strategy is appropriate for all firms.

The remainder of the paper is divided into four sections. Section Two provides background on the prior literature and selection of the sample. Section Three develops the empirical framework. Section Four outlines the empirical specification of the model and discusses the results of the paper. Finally, Section Five outlines the conclusions and implications of the paper as well as areas for future research.

II. Background and Sample Selection

A. Background

We use acquisitions as a means to analyze the diversification and focus strategies of firms. For this reason, literature related to diversification and focus and to mergers and acquisitions are used as a basis for this paper. The diversification and focus literature outlines the motivations for the use of the strategies, costs and benefits of the strategies, and the impact of diversification and focus on firms. The merger and acquisition literature provides a general setting or framework for examining specific diversification and focus transactions.

The diversification and focus literature has found value-enhancing motivations for both strategies. During the 1960's and 1970's, research suggested that companies realized value enhancing benefits from diversification strategies (e.g. Hubbard and Palia, 1999; and Matsusaka, 1993). However, in more recent years, research indicates that firms utilizing focus strategies achieved enhanced value (e.g. Comment and Jarrell, 1995; Berger and Ofek, 1995; Lang and Stulz, 1994; John and Ofek, 1995; and Denis, Denis, and Sarin, 1997).

The decision to diversify or focus is balanced by a series of offsetting costs and benefits. Traditional motivations for diversification center around the benefits of smoother earnings, increased capital markets, and capturing new expertise in changing environments. The benefits of diversification are balanced with incentives for focus including decreased agency costs, removal of negative synergies, and a reduction in fixed costs. Firms electing diversification or focus strategies must examine these costs and benefits and select the appropriate strategy.

Authors have continued to produce both theoretical and empirical evidence related to the potential motivations for and impact of diversification and focus strategies (e.g. Fluck and Lynch, 1999; and Matsusaka, 2001). Our study aims to resolve the question of whether one strategy is superior for all firms, given that firms enter these transactions with varying needs and strengths.

The literature related to the study of mergers and acquisitions provides a means to analyze the impact of diversification and focus strategies. By measuring the change in line of business concentration surrounding an acquisition, our study is able to isolate events that exhibit the diversification or focus strategy of the acquirer. The merger and acquisitions literature serves as an initial guide to assess the impact of an acquisition on the acquirer. Many studies have utilized accounting based measures as a means of assessing the impact of mergers and

acquisitions (e.g. Cornett and Tehranian, 1992; Healy, Palepu, and Ruback, 1992; Linder and Crane, 1992; Chamberlain, 1998; and Chamberlain and Tennyson, 1998). By analyzing changes in the acquirer's performance and capitalization surrounding a diversification or focus acquisition, the impact of the strategies can be measured.

B. Sample Selection

Diversification and focus strategies are studied based on a sample of acquisitions of property-liability insurers between 1993 and 1997. During this period there was a dramatic increase in the frequency of acquisitions of property-liability insurers.² The initial identification of these acquisitions is based on a yearly list from *Best's Review Property-Casualty Edition*.³

The nature of the acquirer's and target's business must be identified to classify the acquisition as either diversification or focus. Acquirers are identified using the *National Association of Insurance Commissioners (NAIC) Database, Compact Disclosure, the Dunn and Bradstreet Million Dollar Database, and Lexis-Nexis*. Targets are identified using the *NAIC Database*. The financial data for the target firms are taken from the *NAIC Property-Casualty Database*. Data for the acquirers come from the *NAIC Property-Casualty Database, the NAIC Life-Health Database, and the Compustat Database*.⁴

² The trend towards increased acquisition activity in the property-liability insurance industry has continued. However, the need for financial data in the year following the acquisition limited the end of the sample period to acquisitions occurring in 1997. Prior to 1993, there were significantly fewer acquisitions of property-liability insurers.

³ Multiple acquisitions by a single acquirer listed in *Best's Review* under a single date are considered to be one acquisition regardless of the number of individual firms acquired. Line-of-business data for the group of target firms in these acquisitions are aggregated by premiums written for each line to determine the business mix for the target group.

⁴ Financial data are reported in the *NAIC Databases* based on Statutory Accounting Procedures (SAP). The financial data in *Compustat* is based on Generally Accepted Accounting Procedures (GAAP). Based on the differences in the accounting procedures, several adjustments were made to make the SAP and GAAP data comparable. For example, adjustments were made to subtract deferred taxes from the total tax liabilities, total liabilities, and net income for the GAAP firms since deferred taxes are not included in SAP accounting records.

For all non-property-liability insurer acquirers, a search of *Compact Disclosure* and *Lexis-Nexis* is conducted to determine the percentage of the acquirer's revenues from property-liability insurance activity. Acquisitions in which the acquirer is identified as being a non-property-liability insurer are categorized as diversification acquisitions.⁵

For all acquisitions by property-liability insurers, a Herfindahl index based on the lines of business written by the acquirer is computed based on data for the year prior to the acquisition (based on the insurer's premiums written). A second Herfindahl index is computed based on the addition of the target's premiums written (revenue) to the acquirer's premiums written. If the concentration level decreased, the acquisition is categorized as a diversification acquisition; otherwise, it is categorized as a focus acquisition.^{6,7}

Based on the criteria described above, the initial sample of 147 acquisition events were identified. These acquisitions represent the acquisition of 237 individual property-liability

Additionally, adjustments are made to SAP accounting to reflect differences in reserving. The adjustments are made to total liabilities and capital. These adjustments make the SAP and GAAP accounting more comparable. There is no way to accurately and completely convert SAP to GAAP accounting based on information available in the *NAIC* and *Compustat Databases*. In an effort to minimize the effects of the two sources of accounting information, *NAIC* data were used whenever possible. This allows for greater comparability between the acquirer and target data, as well as more consistency in the acquirer data.

⁵ In cases in which holding companies are the acquirers, a search is conducted to determine if the acquirer is an insurance holding company or if the firm holds a variety of subsidiaries. If the firm is an insurance holding company, the group information in the *NAIC Database* is used for the financial data of the acquirer. If the holding company is not an insurance holding company, it is classified as a diversification acquisition and financial data from the *Compustat Database* is used if available. Insurers who write more than 50 percent of premiums in life/health insurance lines are categorized as diversification acquisitions due to the differences in earning patterns, operations, and capitalization of life/health and property/casualty firms. Additionally, based on firm descriptions in *Lexis-Nexis*, *Compact Disclosure*, and *Dunn and Bradstreet Million Dollar Database*, acquirers with firm descriptions other than of property-liability insurance are categorized as diversification acquirers.

⁶ Changes in Herfindahl indices have been used in prior literature to define diversification and focus. Desai and Jain (1999) utilize the change in a firm's Herfindahl index based on segment data to classify spin-offs as focus increasing or non-focus increasing. John and Ofek (1995) also used a change in Herfindahl index measure based on segment level data in their analysis of asset sales. Through the uses of line-of-business data, the measure utilized in the study provides further refinement to Desai and Jain's and John and Ofek's measures.

⁷ In an effort to test the sensitivity of the definition of the diversification to small changes in the Herfindahl index, robustness tests are conducted removing the acquisitions in which the percentage change in the Herfindahl index is less than one percent. The results of these tests were generally consistent with the major findings of the paper.

insurers in the time period extending from 1993 to 1997. Of the acquisitions, 104 are classified as diversification acquisitions. The remaining 43 are classified as focus acquisitions. Table 1 (Panel 1) presents a breakdown of diversification and focus acquisitions by year. Using a definition of diversification and focus based solely on SIC codes, only the 27 acquisitions by non-property liability insurance acquirers would be categorized as diversification acquisitions.⁸ Authors such as Andre and Stafford (2001) note that SIC codes may lead to the misclassification of firms due to inconsistencies in the reporting of the SIC codes between data sources. Fan and Lang (2000) comment that definitions based on SIC codes have limitations in measuring the relatedness of firms.⁹ The definition of diversification and focus presented in our study allows for the detection of diversification into new lines of business by insurers, significant shifts in the books of business through the acquisitions, as well as entrance into a new industry.¹⁰

To create the final dataset, firms were removed from the analysis if they did not have all of the financial data necessary to compute the change in performance and capitalization measures. Additionally, acquisitions in which the total assets of the target were less than five percent of the total asset of the acquirer were removed to mitigate the impact of acquisitions that are not economically significant to the acquirer.¹¹ The ultimate analysis of the acquirers includes

⁸ Industries with non-property-liability insurer acquirers include life insurance, health insurance, agents and brokerage services, personal credit institutions, business services, and doctors' offices and clinics.

⁹ Fan and Lang (2000) use a measure of relatedness based on input-output (IO) tables to capture inter-industry and inter-segment vertical relatedness and complementarity.

¹⁰ John and Ofek (1995) looked at the change in the number of segments of business as an alternative measure of diversification and focus. Adapting that definition to look at acquisitions in which acquirers enter new lines of business, about half of the acquisitions by property-liability insurer acquirers do not involve the addition of new lines of business. However, an analysis of the change in Herfindahl index from these acquisitions reveals that almost half of these acquisitions increased the level of diversification of the acquirer's book of business without changing the number of lines of business written. For this reasons, it is important to analyze not only the type of acquirer and target, but also the business mix of the firms.

¹¹ Two outliers were removed based on influence diagnostics performed in SAS. Additionally, two firms with extreme percentage change in operating margins were also removed from the sample based on tests of residuals.

75 acquisitions (twenty-three focus acquisitions and fifty-two diversification acquisitions). Table 1 (Panel 2) presents a breakdown by year of the firms included in the final sample.

The performance measures used in this study are based on accounting data rather than on market-based data. A market-based study is not feasible for several reasons. First, over half of the acquirers in the sample are not publicly traded firms; therefore, there would be a drastic reduction in sample size. In addition to removing a significant portion of the dataset, there is the potential for a bias in the sub-sample of firms remaining as all of the mutual firms and closely-held stock companies would be removed with this screen. Prior studies have shown that there are significant differences in the operations and capitalization of stock and mutual firms in the insurance industry (Mayers and Smith 1988, 1994; Lamm-Tennant and Starks, 1993; and Pottier and Sommer, 1997). Results based on the reduced sample would not therefore be generalizable to the entire population. The presence of even fewer publicly traded targets in the sample exacerbates the limited sample of publicly traded acquirers. Cox and Protes (1998) explain that the inability to track both the market value of the target and of the acquiring firm creates serious limitations in the study of acquisitions based on stock prices. Thus, due to the inability to track changes in the market value of both the targets and acquirers, the significant reduction in sample size for an acquirer only study, and the potential bias created by the removal of non-publicly traded acquirers, accounting-based measures are chosen over market-based measures for the empirical analysis.¹²

¹² Studies such as Healy, Palepu and Ruback (1992) and Cornett and Tehranian (1992) find positive relationships between abnormal stock returns surrounding merger announcements and increases in operating cash flows following the transaction.

III. Empirical Framework

The variables development is divided into two sections based on the empirical framework of the paper. The first section describes the motivations underlying the acquirer's decision to diversify or focus through the acquisition. The decision to diversify or focus is modeled as a function of the acquirer's pre-acquisition tax status, capitalization, liquidity, and efficiency. Changes in the economic environment are also incorporated into the model through a series of time variables. These pre-acquisition traits are designed to model the needs and strengths of the acquirer that influence the decision to use a diversification or focus strategy.

The second section develops variables related to changes in the acquirer's performance and capitalization following the acquisition. In this section, changes in acquirer's operating margin, capitalization, and liquidity are assessed as a function of the diversification or focus characteristic of the acquisition as well as the growth of the acquirer, the relative size of the acquisition, and the level of monitoring involved. A detailed discussion of the empirical specification of the model is provided in Section Four.

A. The Acquirer's decision to diversify or focus

Acquirers selecting diversification or focus strategies are likely to have different underlying goals or motivations in the acquisitions. The motivation to engage in either strategy arises from the acquirer's current needs and strengths. Five dimensions of the acquirers' pre-acquisition performance and capitalization are investigated to gain a better understanding of the decision to diversify or focus. These findings form the basis of the analysis of the impact of diversification and focus in the next section.

Tax Liabilities. Firms often cite a reduction in expected tax liabilities as a benefit of diversification. Due to the progressive nature of the tax schedule, firms have the incentive to

reduce income volatility in an effort to reduce expected tax liabilities (Smith and Stulz, 1985). In an effort to capture the acquirer's incentives to reduce tax liabilities through diversification, a dummy variable equal to one is included if the acquirer paid taxes in the year prior to the acquisitions.¹³ It is hypothesized that firms choosing diversification strategies have higher levels of pre-acquisition tax liabilities than acquirers selecting focus strategies.

Capitalization. Prior literature has linked pre-acquisition characteristics of acquirers to changes in firm performance after the acquisition. For example, Houston and Ryngaert (1994) find that high pre-merger levels of profitability of the acquiring firms are correlated with positive abnormal returns following the acquisition of banks. While specific diversification and focus hypotheses are not attached to this proxy, it does provide important information on the characteristics and motivations of acquirers, as well as insight into the areas in which the acquirer might most actively seek to change through the acquisition. The overall pre-acquisition capitalization of the acquirer is measured by the capital-to-asset ratio. The capital-to-asset ratio also provides a measure of the leverage of the firm.¹⁴

Liquidity. Prior literature has linked both high and low levels of pre-acquisition liquidity to motivations for mergers and acquisitions. Firms with liquidity constraints often view acquisitions as a source of increased liquidity to help remove the financial constraints of the acquiring firms and/or increase the size of internal capital markets. Conversely, for firms with high levels of liquidity, acquisitions serve as a source of positive net present value projects that

¹³ Similar measures of tax liabilities have been utilized by Colquitt and Hoyt (1997), Petroni and Wahlen (1995), Petroni (1992), and Scholes, Wilson, and Wolfson (1990).

¹⁴ A low capital-to-asset ratio equates to a high level of leverage. High levels of leverage also indicate an increase in the acquirer's risk of violating its debt covenants. Violation of debt covenants is costly to firms (Beniesh and Press, 1993). Diversification acquisitions may benefit financially constrained firms as the reduction of earnings volatility through diversification allows acquirers to hold increased levels of leverage (Lewellen, 1971).

allow the acquirer to more effectively utilize its assets. Liquidity is measured through the acquirer's pre-acquisition ratio of cash and invested assets to liabilities.

Relative Efficiency. Prior research has suggested that acquirers target inefficient firms with the goal of achieving higher future returns through improved post-acquisition efficiency of the targets (Chamberlain and Tennyson, 1998; Norgaard and Crary, 1970; and Meador, Madden, and Johnston, 1986). If the acquiring firm is to achieve gains through increases in the efficiency of the target firm, then the target firm is likely to be relatively inefficient in comparison to the acquirer prior to the acquisition. Insurer acquirers are likely to have decreased levels of asymmetric information given their expertise in insurance operations. This would suggest that insurer acquirers, especially those operating in similar lines of business, are more likely to have the expertise to improve the operations of the target firms after the acquisitions. Thus, the focus acquirers should be better able to identify the relatively inefficient firms that have the potential to be improved.

The relative efficiency measure is a dummy variable that is equal to one if the return on assets for the acquirer is higher than the return on assets for the target firm. The variable provides preliminary indication of the ability of the acquirer to improve the performance of the target by implementing managerial and technological changes.

Overall Efficiency. Milbourn, Boot, and Thakor (1999) suggest that profitable firms facing uncertainty about their future core competencies may choose to acquire efficient firms in new areas in an effort to gain an advantage in types of business that has the potential to become a new core competency. For this reason, the overall efficiency of the acquirer is included in the model. It is expected that the diversification acquirers will have higher levels of overall efficiency. Additionally, higher pre-acquisition levels of overall efficiency may signal that the

acquirer is better able to handle the more complex organizational structures and increases in agency costs created in a diversification acquisition. The return on assets for the acquiring firm in the year prior to the acquisition is included to capture the overall efficiency of the acquirer. The pre-acquisition levels of efficiency also are likely to impact the changes in performance and capitalization of the acquirers surrounding the acquisitions.

Changes in Economic Conditions. Changes in the economy or in the insurance industry are likely to impact the acquirer's decision to diversify or focus. These can include changes in investment returns, in the regulatory environment, and in technology. Prior literature has documented the need to control for industry shocks and changes in the economic environment in merger and acquisition studies. For example, Andrade and Stafford (2001) comment that mergers can be the result of industry-wide forces such as a fundamental shock. Other studies linking acquisitions to industry-wide shocks in technology, capital, or supplies include Jensen (1993), Mitchell and Mulherin (1996), Morck, Shleifer and Vishny (1988), and Chamberlain and Tennyson (1998). For this reason, time dummies are included for the year of the acquisition to control for changes in the economy and industry during the sample period.

The analysis of the acquirer's pre-acquisition characteristics provides information on the factors motivating selection of a diversification or focus strategy. In our framework, these factors also are incorporated into the analysis of the impact of the diversification or focus strategy on the acquirer's performance and capitalization after the acquisition. They are incorporated to control for the possibility that firms self-select into the use of diversification or focus strategies. The major hypotheses related to the variables discussed in this section are summarized in Table 2.

B. The Impact of Diversification and Focus on Acquirers

The acquirer's decision to diversify or focus through an acquisition is likely to impact the firm's performance and capitalization. While the percentage change in operating margin is used as the primary indicator of change in performance, it does not provide a complete picture of the impact of diversification and focus on the firm. As noted in Pilloff (1996), Cornett and Tehranian (1992), Healy, Palepu, and Ruback (1992), and Chamberlain (1998), various portions of the acquirer's operations may be impacted by the acquisition. Changes in the capitalization of the acquirers may create for firms potentially offsetting effects on their overall performance. For this reason, changes in the acquirers' capital-to-asset ratio and liquidity are analyzed in addition to changes in operating margin.

The central issue is the impact of the diversification or focus decision on change in performance or capitalization. However, several other factors can impact the changes in the performance and capitalization of the acquirer. In an effort to control for additional factors, variables related to the acquirer's growth, the economic significance of the acquisition for the acquirer, and the market's ability to monitor the transaction are included.

For each of the three performance and capitalization measures, the change in the measure is assessed during a four-year period surrounding the acquisition in an effort to control for potentially abnormal performance in the year of the acquisition and to smooth the effects of possible earnings manipulation in the year prior to the acquisition. The performance and capitalization measures are computed as the percentage change in the acquirer's average value of the measure for the two years prior to the acquisition and for the two years following the acquisition.

Overall Performance. Given that both diversification and focus strategies are used in the sample, financial theory would suggest that both strategies have performance enhancing characteristics. This increases the importance of analyzing the changes in the acquirer's performance in light of the decision to diversify or focus. In general, increases in operating margin can be viewed as a value enhancing effect of the acquisition.

Capital Structure. Capital structure literature suggests that there is an optimal level of leverage for firms. As noted in Carson and Hoyt (1995), firm value increases as leverage increases to an optimal point; after that point the value of the firm declines. Leverage levels that are too high increase the chance of insolvency for the firm (Carson and Hoyt, 1995). Additionally, firms in danger of violating their debt covenants face real costs (Beniesh and Press, 1993).

Leverage also is considered to be a proxy to measure a firm's access to internal capital markets. Myers and Majluf (1984) find that internal capital is typically less expensive than external capital. In a field such as insurance, where asymmetric information can be especially high, firms have incentives to increase the size of these markets. Meador, Madden, and Johnston (1986) suggested that acquirers potentially select under-leveraged target firms in an effort to remove the financial constraints of the acquirer by exploiting the underused leverage capacity of the target after the acquisition.

In the insurance industry, the overall capitalization of the acquiring firm has important implications for the target firms. Prior research in the insurance area has suggested that parent companies may choose to prevent a member company from becoming insolvent (Sommer, 1996). While the parent company is not required to bail out the failing subsidiary, the financial strength of the parent has been shown to increase the financial ratings of the subsidiary firms.

The pre- and post-acquisition percentage change in the acquirer's capital-to-assets ratio is used as a proxy for the change in the acquirer's capitalization resulting from the acquisition.

Liquidity. Changes in the liquidity of the firm provide an indication of the level of free cash flow present. As indicated in Jensen (1986), free cash flow is funds in excess of the funds needed for all of the firm's positive net present value projects. The existence of additional free cash flow may be an indication of an underinvestment problem. Acquirers with high levels of free cash flow prior to the acquisition may utilize the acquisition as a means to reduce the level of free cash flows.

Conversely, firms in a cash constrained position are thought to target firms as a potential source of new liquidity. In the case of a cash constrained acquirer, an increase in liquidity following the acquisition could signal an increase in financial stability. The extent to which the acquisition impacts the overall liquidity of the acquirer is measured by the change in the ratio of cash and invested assets to liabilities of the acquirers surrounding the acquisition.

Changes in the performance measures described above may be the result of firm-specific changes not directly related to the acquisition of a property-liability insurer. For this reason, several factors are included to control for changes in the acquirers that are unrelated to the diversification or focus aspect of the acquisition.

Growth. The growth opportunities of the acquirer can impact several components of the acquirer's capital structure such as liquidity and leverage. For example, Gaver and Gaver (1993) and Smith and Watts (1992) found that firms with high growth opportunities have decreased levels of leverage. Additionally, Wells, Cox, and Gaver (1995) provide evidence that growth opportunities are related to free cash flow. For these reasons, controlling for growth opportunities is important in assessing the changes in capitalization and performance of the

acquirers. The percentage change in net premiums from two years prior to the acquisition through the year following the acquisition is included to control for changes in the growth opportunities of the insurer acquirers. The percentage change in revenues is used for non-insurance acquirers to control for growth opportunities.¹⁵

Relative Size. The larger the relative size of the target to the acquirer, the more likely it is that the acquisition of the target will have a significant impact on the performance of the acquirer. The relative size of the targets and acquirers is recognized in prior studies (Pilloff, 1996; and Benston, Hunter, and Wall, 1995). Benston, Hunter, and Wall (1995) hypothesize that the greater the relative size of the target to the acquirer, the greater the potential for merger-related gains in efficiency. They suggest that economies of scale are positively related to the ratio of target to acquirer size. However, the authors note that the potential gains from economies of scale may be offset by the fact that relatively large targets have fewer opportunities to introduce new and potentially more profitable products. In addition, acquisitions of relatively large firms may result in higher overall costs to the acquirer. The acquisition of a relatively large target also increases the complexity of the organization and the levels of managerial discretion, thereby further raising costs to the acquirer. This variable is based on the ratio of the total assets of the target to the total assets of the acquirer in the year of the acquisition.

¹⁵ Gaver and Gaver (1993), Smith and Watts (1992) and Baber, Janakiraman, and Kang (1996) have suggested measures of growth opportunities such as the market-to-book ratio. Due to data constraints, market-based measures of growth opportunities are not possible for this sample. Baber, Janakiraman, and Kang (1996) suggest past growth rates as a proxy for future growth opportunities. Colquitt, Sommer, and Godwin (1999) use a proxy for growth opportunities similar to the one suggested in this paper.

Publicly Traded. The final control variable is included to capture the level of monitoring faced by the acquirer. As discussed in Pottier and Sommer (1999), publicly-traded firms have an added level of scrutiny provided by outside investors. Additional monitoring by these investors may alter the quality of the decisions of the acquiring firms; thus, the impact on change in performance may be higher for these acquirers. A dummy variable indicating if the acquirer is publicly traded is included to control for the differing levels of monitoring costs firms face.

IV. Empirical Estimation

A. Empirical Specification

As mentioned previously, the implications of diversification and focus are modeled in a two-stage framework. The two-stage approach has two primary advantages. First, the acquirer's decision to diversify or focus in the first stage provides insight into the motivations underlying the selection of the strategy. This information is of interest to target firms, regulators, and investors. Secondly, this framework accounts for the possibility that factors impacting the diversification or focus decision also impact the change in firm performance and capitalization in the period surrounding the acquisition. Prior research on the impact of diversification and focus has not controlled for this possibility (e.g. John and Ofek, 1995; and Desai and Jain, 1999).

The following system of two equations is estimated:

$$\begin{aligned} \text{Diversification/Focus} &= \beta_0 + \beta_1(\text{Relative_Eff.}) + \beta_2(\text{Acquirer_Eff.}) + \beta_3(\text{Tax}) + \\ &\beta_4(\text{Liquid}) + \beta_5(\text{LNAsset}) + \beta_{6-10}(\text{Year}) + \varepsilon \end{aligned} \quad (1)$$

$$\begin{aligned} \Delta\text{Performance or Capitalization} &= \beta_0 + \beta_1(\text{Diversification/Focus}) + \beta_2(\text{Relative_Size}) + \\ &\beta_3(\text{Growth}) + \beta_4(\text{Public}) + \beta_5(\text{Lambda}) + \varepsilon \end{aligned} \quad (2)$$

Equation (1) models the acquirer's decision to diversify or focus. This decision is based on the pre-acquisition characteristics of the acquirer. Equation (2) models the change in the acquiring firm's performance or capitalization based on the diversification or focus decision and changes in the firm. The system of two equations is estimated separately for the percentage change in the operating margin, capital-to-asset ratio, and liquidity. In each set of equations, the primary variable of interest is the Diversification/Focus dummy variable in equation (2). The variable captures the impact of the diversification/focus aspect of the acquisition on firm performance and capitalization. The Diversification/Focus variable is defined as one if it is a diversification acquisition; otherwise, it is defined as zero. The Lambda variable included in the second equation is included as part of the treatment effects methodology discussed later in this section. The other variables in the equations represent those discussed in the previous section.

As explained in Greene (1993), the coefficient on the endogenous dummy variable may be biased if firms self-select into one of the groups (or treatments). A treatment effects approach is utilized to correct this potential self-selection problem.¹⁶ The use of this methodology is particularly important in models that utilize dummy variables to measure the effect of treatment effects or program participation (Greene, 1993).

Table 3 presents basic summary statistics for the acquirers included in the estimation of the model. Analysis revealed a strong correlation (.847) between the capital-to-asset ratio and

¹⁶ The procedure involves the estimation of a decision equation, Equation (1). From the results of the decision equation, an estimated inverse Mill's ratio (Lambda) is calculated for each observation. The second step involves the estimation of a least squares regression with the inverse Mill's ratio included as an additional regressor, Equation (2). The presence of the inverse Mill's ratio in the second stage corrects for the potential bias in the performance equation that would have resulted from the use of an OLS estimation of the equation. Greene (1998), and Barnow, Cain, and Goldberger (1981) suggest that the treatment effects model and the instrumental variables approach are alternate methods of estimating the model. Vella and Verbeek (1999) note that in most cases these methodologies produce similar results. However, there are situations in which slightly different empirical results may emerge. In an effort to confirm the results of the treatment effects model, a second approach is utilized involving the use of instrumental variables. The instrumental variables approach produced results that were statistically similar to the results presented in the paper.

liquidity. For this reason, only liquidity is included in the equation modeling the acquirer's diversification or focus decision.

B. Results Related to the Decision to Diversify or Focus

The probit model in the first stage of the analysis investigates the motivations underlying the acquirer's decision to diversify or focus based on the acquirer's pre-acquisition efficiency, tax status, and liquidity. The results presented in Table 4 provide support for many of the traditional motivations underlying the acquirer's diversification or focus decision.

As expected, diversification acquirers tend to have higher pre-acquisition tax liabilities relative to the focus acquirers. This finding provides support for the hypothesis that diversification acquisitions may be motivated, at least in part, by the acquirer's desire to reduce future tax liabilities through earnings diversification. Further, the acquirers in the diversification transactions have lower levels of liquidity, implying that a diversification acquirer could be motivated to reduce earnings volatility to support its decreased level of liquidity. The low pre-acquisition levels of liquidity for diversification acquirers provide increased motivation for examining the changes in liquidity surrounding the acquisition as the acquirer may be targeting firms as a new source of liquidity.¹⁷

The diversification acquirers tend to have higher than average levels of efficiency. This provides support for the premise observed in Milbourn, Boot, and Thakor (1999) that profitable firms facing uncertainty about future core competencies may choose to diversify into different areas to gain new core competencies. Additionally, the more efficient, diversification acquirers may be better able to handle the potential increase in the complexity of the organization arising from diversification. Control variables for the size of the acquirer and the year of the acquisition

¹⁷ In a parallel study based on the impact of diversification and focus strategies on target firms, the results show that highly liquid firms are targeted in diversification acquisitions.

were included. By considering the motivations driving the diversification or focus decision, a better assessment of the impact of the strategy can be developed.

C. Results Related to the Impact of Diversification and Focus

The impact of diversification and focus strategies are modeled both with and without controls for self-selection bias. Estimating the models both with and without controls for self-selection bias allows us to contrast our results with the findings of prior studies. Prior research has not controlled for self-selection bias. Table 5 presents the results based on a series of OLS regression models that do not control for the motivations to diversify or focus. Based on this approach, diversification acquisitions appear to have a positive impact on the performance and capitalization of the firms engaging in those transactions. These results support the findings of earlier studies that find value enhancing effects from diversification strategies (e.g. Hubbard and Palia, 1999; and Matsusaka, 1993). Potential reasons for the value enhancing nature of diversification acquisitions include smoother earnings, reduced tax liabilities, larger internal capital markets, and new core competencies. These results do not take into account the characteristics of the acquirer that influenced the diversification or focus decision.

In contrast to the models which do not incorporate the motivations for the selection of a diversification or focus strategy, Table 6 presents the results of the models controlling for potential self-selection bias.¹⁸ When we control for potential self-selection bias, it appears that the impact of the diversification or focus characteristic of the acquisition is no longer an important factor in the change in performance and capitalization of the acquiring firm. This is not to say that the acquirer's performance or capitalization did not change surrounding the

¹⁸ An instrumental variables approach is also used as a robustness check of the treatment effects methodology. Results for the two methodologies provide statistically similar results. For a description of the instrumental variables approach, see Maddala (1983).

acquisition, but that the change is not associated with the diversification or focus aspect of the acquisition.

This result is especially significant in light of the fact that the models without controls for self-selection bias presented in Table 5 would imply that diversification transactions have a positive impact on the performance and capitalization of the acquirers. The results of the models presented in Tables 5 and 6 emphasize the importance of controlling for the characteristics that shape the decision to diversify or focus rather than measuring the impact of the decision in isolation. The findings suggest that the value-enhancing nature of diversification and focus strategies is in the selection of the proper strategy for the right firm, rather than in the use of one strategy for all firms. These findings also provide a partial explanation for the often-conflicting results in previous studies related to the impact of diversification and focus on firm performance and capitalization. These studies did not control for differences that motivated the acquirers' decision to diversify or focus.

The coefficients on the control variables are largely unaffected by controlling for self-selection bias. The relative size variable is negative and significant in the performance equation, indicating that the larger the relative size of the target to the acquirer, the greater the costs of combining the firms. This could stem from increased agency costs related to an increase in managerial discretion due to the now larger and potentially more complex organizational structure. The rapid increase in size and related costs would have a negative impact on the operations of the acquirer.

The negative relationship between growth and the capital-to-asset ratio could signal that firms with high levels of growth deplete capital resources to finance the increase in size. Similarly, increased growth also relates to a decrease in the firm's liquidity as indicated by the

negative relationship between the percentage change in liquidity and growth variables. The PUBLIC variable, which equals one if the firm is publicly traded, is significant only in the liquidity equation. The variable is designed to capture the influence of increased monitoring on the acquisition.

V. Conclusions, Implications and Future Research

A. Conclusions

The primary goal of the study is to assess the impact of diversification and focus on the acquiring firm. Through the use of a refined definition of diversification and focus along with a two-stage methodology, the study is able to provide new information on the implications of diversification and focus strategies.

The refined definition of diversification and focus creates a more accurate categorization of the transactions that helps to remove the potentially confounding effects of misclassification. The definition of diversification and focus allows for the detection of diversification within the insurance industry as well as diversification into the industry. This system overcomes some of the limitations associated with SIC code-based definitions of diversification and focus, and reclassifies almost half of the transactions those studies would have defined as focus acquisitions.

The two-stage framework links the diversification or focus decision to the impact of that choice on the performance and capitalization of the acquirer following the acquisition. From an empirical standpoint, this is necessary to control for potential self-selection bias that would result if the pre-acquisition needs and strengths that prompted the acquirer to diversify or focus also impacted the changes in the acquirer's performance and capitalization following the acquisition.

Conceptually, this framework allows for a more complete assessment of the implications of diversification and focus.

The study provides an explanation of the motivations underlying the acquirer's decision to diversify or focus. It appears that firms entering into diversification acquisitions are those who have the strongest need to smooth earnings. The results of the study indicate that these diversifying acquirers are also better able to handle the increased agency costs associated with the creation of more complex, diversified firms.

Through the use of both pre- and post-acquisition data for the acquiring firms, the study helps answer the question of whether diversification and focus impacts changes in performance and operations of the acquirers. Based on the results of the study, it appears that when the motivations and characteristics of the acquirer are considered, the diversification and focus aspect of the acquisition is not related to the changes in the acquirers' performance and/or capitalization. However, in our models that do not control for potential self-selection bias, diversification strategies are associated with increases in performance and capitalization. This is significant because of the conflicting results of prior studies in which both diversification and focus have been found to increase firm value. These studies have failed to control for the factors that motivated the acquirers to self-select into the diversification or focus categories.

B. Implications and Future Research

The diversification or focus decision is especially relevant in the current financial services marketplace in light of financial services deregulation. The move towards deregulation is likely to propel the current wave of mergers and acquisitions as firms continue to diversify into the industry and insurers consolidate to remain competitive. Thus, the information contained in

the study provides valuable information to the regulators charged with governing future acquisitions.

The study also provides empirical support for the idea that one strategy is not superior for all firms. In the case of diversification and focus strategies, our results suggest that the selection of an appropriate strategy for the right firm is what enhances value, rather than the use of one strategy for all firms.

The use of a two-stage empirical framework illustrates the importance of controlling for aspects that influence the decision to use a diversification or focus strategy when assessing the impact of the strategy on the acquirer. This framework has implications for future research in the area of diversification and focus as well as in other areas of financial economic research. For example, when measuring the implications of a business strategy, financing decision, or other financial transaction, it is important to assess the not only the impact of that decision but the factors that lead to that decision. This two-stage framework allows for a more accurate assessment of the impact of the decision or strategy.

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TABLE 1
Diversification and Focus

Panel 1
Acquisitions by Year (Initial Sample)

Year	Focus Acquisitions	Diversification Acquisitions
1993	8	11
1994	6	15
1995	7	24
1996	12	27
1997	10	27
Total	43	104

Panel 2
Acquisitions by Year (Final Sample)

Year	Focus Acquisitions	Diversification Acquisitions
1993	3	9
1994	4	6
1995	4	13
1996	8	13
1997	4	11
Total	23	52

TABLE 2	
Expected Pre-Acquisition Characteristics of Acquirers	
Characteristic	Diversification ⁺
Tax Liabilities	Higher
Capitalization	N/A
Liquidity	N/A
Relative Efficiency	No difference or Targets are more efficient than the Acquirers
Overall Efficiency	Higher
⁺ The expectations associated with focus acquirers are opposite of the exceptions present here.	

TABLE 3
Summary Statistics

	DIVERSIFICATION ACQUIRERS	FOCUS ACQUIRERS
Number	52	23
Relative Efficiency	0.7307	0.6522
Acquirer Efficiency	0.0433	0.0324
Tax	0.7692	0.6087
Capital to Asset Ratio	0.3542	0.3508
Liquidity	1.3857	1.4760
Log of Total Assets	19.5691	19.5594
Relative Size	0.8986	0.3228
Growth	0.7234	0.7093
% Change in Operating Margin	-0.2599	-0.9877
% Change in Liquidity	0.0832	0.01584
% Change in Capital-to-asset Ratio	0.2379*	-0.0100*

*Difference in means is significant at the 5% level based on pair-wise t-tests.

TABLE 4**The Diversification or Focus
Decision of the Acquirers**

$$\text{Diversification/Focus} = \beta_0 + \beta_1(\text{Relative_Eff.}) + \beta_2(\text{Acquirer_Eff.}) + \beta_3(\text{Tax}) + \beta_4(\text{Liquid}) + \beta_5(\text{Size}) + \beta_{6-9}(\text{Year}) + \varepsilon$$

	Expected Sign	Coeff.	P-value
<i>ONE</i>		2.99056	0.2954
RELATIVE EFF	-	-0.0903274	0.8617
ACQUIRER EFF	+	17.9384	0.0451
TAX	+	0.905859	0.0390
LIQUID		-0.659735	0.0640
SIZE		-0.12208	0.3907
Y94		-1.1552	0.1712
Y95		0.215474	0.7600
Y96		-0.753531	0.2704
Y97		-0.547182	0.4239

The Model is a probit model.

Diversification/Focus=Dummy Variable equals 1 if Diversification Acquisition;
 Relative_Eff. = Equals 1 if the Return on Assets for the Acquirer is Greater than the Return on Assets for the Target in the year prior to the acquisition; Acquirer_Eff. = Return on Assets of the acquirer in the year prior to the Acquisition; Tax = Equals 1 if the acquirer paid taxes in the year prior to the acquisition; Liquid = Ratio of Cash and Invested Assets to Liabilities for the Acquirer in the year prior to the acquisition; Size=The Natural Log of Total Assets for the Acquirer in the Year prior to the Acquisition; Year= Dummy variables indicating the year of the acquisition (Year=1993 is omitted)

TABLE 5
Changes In The Acquirer
Performance And Capitalization*

$$\Delta \text{Performance or Capitalization} = \beta_0 + \beta_1(\text{Diversification/Focus}) + \beta_2(\text{Relative_Size}) + \beta_3(\text{Growth}) + \beta_4(\text{Public}) + \varepsilon$$

	Percentage Change in Operating Margin	Percentage Change in Capital-to-asset Ratio	Percentage Change in Liquidity
Constant	-1.34767 (0.0016)	0.0523943 (0.5849)	0.0231442 (0.7837)
Diversification/Focus	0.97935 (0.0768)	0.263715 (0.0137)	0.057735 (0.5768)
Relative_Size	-0.183269 (0.0000)	0.00875535 (0.0756)	0.0145524 (0.0000)
Growth	0.0913332 (0.6340)	-0.150753 (0.0215)	-0.109454 (0.0072)
Public	0.173448 (0.7901)	0.149337 (0.3054)	0.191156 (0.1448)
R-Square	0.1702	0.2083	0.1878

*Models Based on OLS regression without controls for selection Bias. Breusch-Pagan tests indicated the presence of heteroskedasticity in the models. Results are adjusted for heteroskedasticity. (P-Values are reported in parentheses.)

Percentage Change Variables are based on the percentage change in the average of the two years prior to the acquisition and the average of the year of the acquisition and the year following the acquisition.
 Operating Margin = Operating Cash Flows to Total Assets;
 Liquidity = Cash and Invested Assets to Total Liabilities;

Diversification/Focus=Dummy Variable equals 1 if Diversification Acquisition;
 Relative_Size= Total Assets of the Target / Total Assets of the Acquirer in the year of the acquisition;
 Growth = Percentage Change in Net Premiums Written from Two Years Prior to the Acquisition through Two Years Following the Acquisition;
 Public = Dummy variable equals 1 if the acquirer is Publicly Traded

TABLE 6
Changes In The Acquirer
Performance And Capitalization
With Controls for Self-Selection Bias*

$$\Delta \text{Performance or Capitalization} = \beta_0 + \beta_1(\text{Diversification/Focus}) + \beta_2(\text{Relative_Size}) + \beta_3(\text{Growth}) + \beta_4(\text{Public}) + \beta_5(\text{Lambda}) + \varepsilon$$

	Percentage Change in Operating Margin	Percentage Change in Capital-to-asset Ratio	Percentage Change in Liquidity
Constant	-1.70241 (0.0582)	-0.0085031 (0.9704)	0.202724 (0.2609)
Diversification/Focus	1.52322 (0.2158)	0.357081 (0.2557)	-0.21759 (0.3787)
Relative_Size	-0.184451 (0.0041)	0.00855244 (0.6039)	0.0151508 (0.2196)
Growth	0.0747065 (0.7460)	-0.153607 (0.0095)	-0.101037 (0.0207)
Public	0.157038 (0.7747)	0.14652 (0.2976)	0.199464 (0.0578)
Lambda	-0.416201 (0.6141)	-0.0714487 (0.7351)	0.210694 (0.1954)

*Based on a treatment effects model. The first stage of the model is the probit model presented in Table 3. Models are adjusted for heteroskedasticity. (P-Values are reported in parentheses.)

Percentage Change Variables are based on the percentage change in the average of the two years prior to the acquisition and the average of the year of the acquisition and the year following the acquisition.
 Operating Margin = Operating Cash Flows to Total Assets;
 Liquidity = Cash and Invested Assets to Total Liabilities;

Diversification/Focus=Dummy Variable equals 1 if Diversification Acquisition;
 Relative_Size =Total Assets of the Target / Total Assets of the Acquirer in the year of the Acquisition;
 Growth = Percentage Change in Net Premiums Written from Two Years Prior to the Acquisition through Two Years Following the Acquisition;
 Public= Dummy variable equals 1 if the acquirer is Publicly Traded;
 Lambda = The Inverse Mill's ratio created from the Probit Model