INTERSECURITY WEALTH REDISTRIBUTION IN CONGLOMERATE MERGERS: A RE-EXAMINATION OVER THREE DECADES

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Abstract

In this paper we re-examine the predicted wealth effects for the stockholders and bondholders involved in conglomerate mergers. Seminal studies in finance offer several hypotheses about the valuation consequences of corporate diversification and firm performance. Recent empirical studies document the negative relationship between corporate diversification and firm performance. We evaluate the predictive accuracy of these earlier theories given these more recent empirical results. Our results indicate that the wealth predictions of neither the wealth creation theory of Lewellen (1971) nor the wealth redistribution theories of Higgins and Schall (1975) or Galai and Masulis (1976) hold for bondholders and stockholders in whole. Bondholder wealth changes are virtually independent of stockholder wealth changes in conglomerate mergers in the 1970s and 1980s. However, a significantly negative relationship exists between stockholder and bondholder wealth changes in conglomerate mergers occurring in the 1990s. Conglomerate mergers did not result in significant stock or bond wealth creation in any of the three decades studied. Over the last decade, capital markets have penalized the stockholders in conglomerate mergers with significant wealth losses. Bondholder wealth changes are insignificantly positive, resulting in significant net wealth losses for conglomerate mergers in the 1990s.

Keywords: mergers, stockholders, bondholders, firm performance

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1. Introduction

Corporate finance theory is replete with theories offering explanations for the wealth effects of mergers and acquisitions. Many of these theories revolve around the differentiation between net wealth changes and wealth redistributions between security holders. For example, the gains or losses to common stockholders cannot be the sole measure of the aggregate wealth changes resulting from a merger if they are the result of bondholder wealth changes. Thus, any wealth changes experienced by a security class may be the result of wealth creation or wealth redistribution. [1]

Much of the theoretical rationale for wealth-enhancing and wealth-redistributive merger effects centers on the level of business concentration or diversification and expected synergies resulting from a merger.[2] The type of synergy expected to result from a merger depends on the degree of overlapping business between the acquiring and acquired firms. Financial synergies are created when the cost of debt decreases because a combined firm's cash flows are less risky and the potential for internal capital markets exist.

[1] Shleifer and Summers (1988) would also contend that non-security stakeholders such as employees, affected communities, and the government should also be considered when evaluating the aggregate wealth changes resulting from corporate control events. While true, this analysis is outside the scope of our inter-security wealth effects analysis.

[2] These theories are found in the seminal works of Levy and Sarnat (1970), Lewellen (1971), Higgins and Schall (1975), Galai and Masulis (1976), and Amihud and Lev (1981). We elaborate on these in the next section.

Operating synergies are the result of economies of scale and scope and the reduction of overlapping resources. Wealth gains realized in unrelated, or conglomerate, mergers are expected to be generated by financial synergies since the merged firm's cash flows are supposedly less risky as they are diversified across different businesses/ industries.

Operating synergies are the expected source of wealth gains in related mergers since the combined firm results in a concentration of resources in the same business. Existing theories assume that operating synergies are small or non-existent in conglomerate mergers and the same holds true for the existence of financial synergies in related mergers.[3]

In this paper, we re-examine these theories empirically in light of the expanding and more recent corporate focus/diversification literature. This line of research documents the loss in firm value generally suffered by firms that pursue diversification strategies. Specifically, Lang and Stulz (1994) and Berger and Ofek (1995) show that diversified firms have lower market values relative to their focused counterparts in the order of 13%-15%. Of the event studies which analyze the impact of changes in corporate focus on security holder wealth, Maquieira, Megginson, and Nail (1998) do not find the existence of financial synergies in conglomerate mergers, Desai and Jain (1999) show that long-term operating cash flow returns significantly improve in focus-increasing spin-offs, and Megginson, Morgan, and Nail (2004) show that long-term operating cash flow returns significantly decrease after focus-decreasing mergers.[4] These empirical results challenge some of the assumptions of the aforementioned theories on wealth creation/ redistribution – namely that conglomerate mergers result in no operating synergies. In fact, conglomerate mergers seem to result in negative operating synergies.

Given this result, the wealth creation and redistribution theories should be re-examined as their assumptions are challenged by the recent empirical evidence. We perform this examination in our study and find that the existing theories do not accurately predict the net wealth effects of mergers due to their assumptions regarding the existence of negligible operating synergies in conglomerate mergers and financial synergies in related mergers. We find that significantly negative operating synergies result from conglomerate mergers and that bondholder wealth gains are greater in related mergers than in conglomerate mergers – contrary to the wealth creation theory of Lewellen (1971). Our results also indicate that the wealth changes of stockholders and bondholders have become negatively correlated – as predicted by the wealth redistribution theories of Higgins and Schall (1975) and Galai and Masulis (1976). Although the correlation between bondholder and stockholder wealth changes is significantly negative in the 1990s as predicted, net wealth changes are significantly negative rather than neutral. Thus, conglomerate mergers lead to wealth destruction rather than wealth redistribution. Our results are also consistent with Morck, Shleifer, and Vishny (1990) that the capital markets have learned of the failure of corporate diversification over time. In aggregate, these results show no wealth creation in conglomerate mergers and that wealth redistribution theories are inadequate predictors of net merger wealth effects and should be modified to account for more recent empirical evidence as already done by the capital markets. The financial synergy theory of Lewellen predicting wealth gains for both stockholders and bondholders in conglomerate mergers is not empirically supported by our results. The wealth redistribution theories are not empirically supported in their prediction of stockholder wealth losses equal to bondholder wealth gains in conglomerate mergers. However, the wealth redistribution theories do correctly predict that operational synergies dominate financial synergies in the creation of net wealth in mergers. The latter result is of the greatest interest for both its statistically and economically significant implications for the source of securityholder wealth changes resulting from corporate mergers.

The remainder of our paper is organized as follows: Section 2 reviews the relevant literature, Section 3 describes our sample, Section 4 presents our empirical analysis, and Section 5 concludes.

2. Literature review

Early corporate finance theories espoused the benefits of corporate diversification and the financial synergies created in conglomerate mergers. Weston (1970) and Williamson (1971) describe the benefits of internal capital markets that would be created in conglomerate mergers – avoiding the external frictions (and inefficiencies) of capital markets. Williamson (1971, 1975) extends the friction argument to product markets

[3] Managerial synergies might also result from a merger, but these could occur in either conglomerate or related mergers.

[4] Other recent papers in this area include Anderson, Bates, Bizjak, and Lemmon (2000), Campa and Kedia (2002), Graham, Lemmon and Wolf (2002), Hyland and Diltz (2002), Lamont and Polk, (2001), Maksimovic and Phillips (2002), Rajan, Servaes and Zingales (2000), Scharfstein and Stein (2000), Schlingemann, Stulz, and Walkling (2002), Schoar (2002), Villalonga (2004), and Walker (2000).

as well, asserting that input quality can be more readily assured and costs minimized in vertical structures/mergers. Teece (1976) further argues that diversification leads to economies of scope in managerial capabilities. If there are informational asymmetries between managers and shareholders, a diversified firm may provide an effective internal capital market to fund positive NPV projects [see Fluck and Lynch (1999), Stein (1997), Billet and Mauer (2003), and Hadlock et al (2001)].

Levy and Sarnat (1970) first placed conglomerate mergers and firm diversification within the context of portfolio theory – treating individual businesses within a conglomerate as individual securities within a portfolio. Using portfolio theory, Levy and Sarnat demonstrate that conglomerates with unrelated businesses should have cash flows that have low correlations with each other. This low correlation will increase the likelihood that the firm will have at least one business with positive cash flows leading to a lower the risk of bankruptcy, lower the cost of capital, and lead to more positive net present value projects and greater stock value. Lewellen (1971) extends the Levy and Sarnat theory with his "coinsurance of debt" theory. Under this theory, wealth is created in conglomerate mergers since the capital markets perceive the debt of the merged firm to be "coinsured" by two cash flow streams that are less-than-perfectly correlated (and thus less risky) with the same effects on borrowing costs and stockholder value as predicted by Levy and Sarnat and the further prediction that bondholders will experience wealth gains. Thus, Lewellen contends that net wealth is created in conglomerate mergers as both stockholders and bondholders experience wealth gains. Countering the wealth creation proposition of Lewellen (1971), Higgins and Schall (1975) postulate that conglomerate mergers do not result in operating synergies and the combined firm's cash flow is merely the sum of the pre-merger firms' cash flows. Thus, total firm value is unchanged and any financial synergies that result in bondholder wealth gains must be the result of stockholder wealth losses. Galai and Maulis (1976) further develop the wealth redistribution theory of Higgins and Schall by viewing stockholder value as an option on the combined firm's cash flows with the bondholder's fixed claim as the strike price. Using pure stock exchange (PSE) conglomerate mergers as the mechanism for modeling a pure economic system with no net wealth changes (assuming again that conglomerate mergers do not result in operating synergies), Galai and Masulis show that the less-risky cash flows created in conglomerate mergers benefit bondholders at the expense of stockholders since the value of the stockholders' option decreases with lower volatility.

Empirically, the tests of the wealth creation and wealth redistribution theories offer somewhat mixed results. Early studies of the operating performance of conglomerate firms by Reid (1968, 1977), Melicher and Rush (1973), Mason and Goudzwaard (1976), and Lee and Cooperman (1989) indicate that conglomerate firms either do not outperform nonconglomerate firms or that they significantly underperform more focused firms. Weston and Mansinghka (1971) argue that firms engaging in conglomerate mergers were industry laggards prior to merger and became average performers in the industry after the merger. Thus, Weston and Mansinghka conclude that conglomerate mergers must lead to improvements in operating performance. Financial performance studies are also mixed. Weston, Smith, and Shrieves (1972); Smith and Weston (1977); Elgers and Clark (1980); and Michel and Shaked (1984) report that either conglomerate firms post superior financial performance or that the announcement of a conglomerate merger resulted in positive abnormal returns. On the other hand, Westerfield (1970) and Joehnk and Nielsen (1974) do not find superior performance for conglomerate firms or acquirers.

Direct tests of the wealth creation/redistribution theories have also resulted in mixed results. Kim and McConnell (1977) and Asquith and Kim (1982) find no evidence of a wealth redistribution from stockholders to bondholders in their analysis of conglomerate mergers. Kim and McConnell find that bondholders do not experience wealth gains and thus a wealth redistribution as predicted by Higgins and Schall and Galai and Masulis does not exist. Asquith and Kim find that the only securityholders to experience significant wealth changes in conglomerate mergers are target shareholders and that no significant correlation exists between stockholder and bondholder returns. Eger (1983) counters that the prior two studies are flawed because they do not limit their samples to PSE mergers as demonstrated by Galai and Masulis. Limiting her sample to only PSE conglomerate mergers, Eger finds that bondholders do experience significant wealth gains and those stockholders do not experience significant wealth changes in mergers with public debt outstanding. Maquieiria, Megginson, and Nail (1998) find bondholder wealth gains and stockholder wealth losses in their study of conglomerate PSE mergers, but neither of the wealth changes was significant. Therefore, the direct tests of the wealth creation/redistribution theories of conglomerate mergers provide mixed results regarding the predicted wealth effects. The two consensus results of these four studies are that

bondholders in conglomerate mergers do not appear to lose and stockholders do not appear to win.[5]

In the more recent corporate focus/ diversification literature, empirical studies have documented the wealth gains experienced by the stockholders of firms that engage in focus-increasing activities and the wealth losses suffered by the stockholders of firms that engage in focus-decreasing, or diversifying, activities. Comment and Jarrell (1995) document a positive relationship between changes in corporate focus and firm value. Similarly, Lang and Stulz (1994) and Berger and Ofek (1995) show that diversified firms have lower market values relative to their focused counterparts and John, Lang, and Netter (1992) find that firms increase their focus through voluntary corporate restructurings in response to performance declines. Both John and Ofek (1995) and Desai and Jain (1999) also find significant wealth gains accruing to the stockholders of firms that increase their focus through the divestiture of non-core assets. Desai and Jain further report that operating cash flow performance significantly improves after focus-increasing divestitures.

Morck, Shleifer, and Vishny (1990) find that the announcement period returns for the shareholders of acquiring firms which pursued diversifying acquisitions significantly decreased between the 1970s and the 1980s and reach the conclusion that the capital markets have learned of the failure of corporate diversification over time and now place a premium on focus and a discount on diversification. This finding also coincides with those of Bhagat, Shleifer, and Vishny (1990) and Berger and Ofek (1996) that the acquisition-related gains in the 1980s largely represented the bust-ups of diversified firms and a return to corporate specialization with a more efficient allocation of assets.

Conflicting results have been reported regarding the correlation between the degree of acquirer/target business relatedness and long-term post-acquisition performance. Healy, Palepu, and Ruback (1992) find that acquisitions involving firms with highly overlapping businesses significantly outperform those involving firms with lowly overlapping businesses. This finding is supported by Megginson, Morgan, and Nail (2004) who find a direct and continuous relationship between merger-related changes in corporate focus and stockholder wealth changes and that operating cash flow performance significantly declines after focus-decreasing (conglomerate) mergers. Conversely, Agrawal, Jaffe, and Mandelker (1992) report superior post-acquisition performance for conglomerate mergers relative to nonconglomerate mergers. Although the authors find superior performance for conglomerates, they also find that both types suffer significantly negative abnormal returns in the five-year post-merger period. Franks, Harris, and Titman (1991) and Fama and French (1993) attribute these results to benchmark errors. This same benchmark error criticism also applies to most of the earlier studies of conglomerate performance and suggests that the results of these earlier studies be interpreted with caution.

3. Description of sample

Our sample selection of mergers involves several defining criteria. First, we limit our sample to pure stock-exchange (PSE) mergers. As shown by Galai and Masulis (1976), these transactions are self-contained financial systems which represent the combination of two former entities into a newly-formed single entity with no cash flow outflow in the form of a takeover premium. Thus, PSE mergers offer a unique opportunity to analyze inter-security wealth redistributions in a pure economic system.

Another filtering criterion includes the exclusion of mergers involving confounding events as generally defined by Huang and Walkling (1987). These events are those such as concurrent mergers, announced divestitures, or major capital structure changes occurring during the merger event period of two months prior to merger announcement through two months after the effective date of the merger. Further, the first announcement of the intention to merge must be published in the *Wall Street Journal Index* (WSJI), and this date is taken as the merger announcement date. The effective date of the merger is obtained from the Center for Research in Securities Prices (CRSP) database as the delisting date and is verified by the *WSJI* or the relevant *Moody's Manual.*

To be included in the sample, mergers must also be completed in the sense that the target firm disappears as a separate entity. Therefore, partial exchanges of stock (regardless of any control changes) are excluded from the sample. Also, the mergers for this sample must be identified from the Securities Data Corporation (SDC) database for the period of 1980-1999 or from *Mergers and Acquisitions* for the 1970-1979 period, complete

[5] Billet, King and Mauer (2004) examine bondholder wealth effects in a sample of mergers and acquisitions in the 1980s and 1990s and find evidence of positive announcement returns to target bondholders when the bond are below investment grade. Additionally they find evidence of negative announcement returns to aquiring firm bonds. In this study we focus exclusively on mergers which allow us to examine self-contained financial systems which represent the combination of two former entities into a newly-formed single entity with no cash flow outflow in the form of a takeover premium.

data must be available for both firms on the CRSP daily tapes and the Standard & Poors' Research Insight database, and line of business data must be available for the merging firms from the relevant *Moody's Manuals* in the year immediately preceding the announcement of intent to merge. Finally, either the acquiring or target firm (or both) must have at least one publicly-traded corporate bond issue outstanding. Application of these criteria yields a sample of 128 PSE mergers completed between 1970 and 1999 which have both publicly-traded common stocks and bonds. The average length of the event period is eight months and the average ratio of the target firms' market value of equity to that of acquirers is 0.23.

[Insert Table 1 about here]

The first step in classifying our mergers as either related or conglomerate involves identifying the two-digit standard industrial classification (SIC) code for the primary line of business reported in the relevant *Moody's Manual* for the fiscal year preceding the merger announcement. In cases where more than one SIC code is present in a line of business, the two-digit SIC code of the first listed product or service is used as the SIC code for the line of business. As described in Megginson, Morgan, and Nail (2004), we then calculate Herfindahl Index values for both the acquiring and merged firms. Any mergers resulting in a merged Herfindahl Index lower than the acquirer's is classified as conglomerate. All others are classified as related. As can be seen in Table 1, the sample consists of 49 related and 79 conglomerate mergers. The distribution of mergers between related and conglomerate favored related mergers more in the 1980s than in the 1970s as expected. However, the latter half of the 1990s saw a dramatic increase in the number of conglomerate mergers and surprisingly caused the decade of the 1990s to experience more conglomerate than related PSE mergers.

4. Empirical analysis

4.1 Announcement period returns

One of the unique features available in an analysis of PSE mergers is the ability to examine target shareholder returns even after the effective date of a merger. By accounting for the exchange ratio offered by the acquiring firm to the target firm for their shares, the total number of shares of the merged firm owned by the former target firm's shareholders may be determined as well as the market value of these shares. As our event window extends beyond the effective date of the merger, we must use the exchange ratio in order to determine the target's returns as well as the weighted-average returns of the acquirers and targets. Consideration of the exchange ratio requires a small modification to the standard market model methodology often used in merger event studies as suggested by Maquieira, Megginson, and Nail (1998) in their wealth redistribution study. The single common stock class resulting from the merger should be equal to the market-adjusted summed value of the merging firms' common stocks. To adjust for market movements, we compute an index value of the CRSP value-weighted return (including all distributions) over the period beginning two months before merger announcement through two months after the merger effective date - the same time frame as our security holding period. We then calculate the predicted merged-firm equity value as the product of this index number and the combined equity value of the merging firms, as in Equation 1 below:

Equation 1

$$(Pred\ MVCS\ Comb)_i = [(MVCS\ Acquirer)_i * (1+CSIndex_i) * \beta_{A,i}] + [(MVCS\ Target)_i * (1+CSIndex_i) * \beta_{T,i}]$$

Where:

$(Pred\ MVCS\ Comb)_i$ = predicted market value of common stock of the combined firm in merger i;

$(MVCS\ Acquirer)_i$ = pre-merger market value of acquiring firm's stock in merger i;

$(MVCS\ Target)_i$ = pre-merger market value of target firm's stock in merger i;

$(CSIndex)_i$ = geometric return on the CRSP value-weighted index from two months before merger i's announcement date through two months after its effective date;

$\beta_{A,i}$ = acquiring firm's market model beta for months -62 through -2 for merger i;

$\beta_{T,i}$ = target firm's market model beta for months -62 through -2 for merger i.

The actual market value of the combined firm in merger i, $(MVCS\ Comb)_i$, is computed as the price per share of the merged firm times the number of shares outstanding, plus the dollar value of dividends per share paid on the merging firms' stocks during the security holding period. A valuation prediction error (VPE) for the common stock in merger i, $(VPE\ CS\ Comb)_i$, is then computed as the difference between the actual and predicted market values. This VPE is our measure of the total gain (or loss) that accrues to the common stockholders of the merging firm as a result of the merger and represents the weighted-average VPE.[6] Acquirer and target VPEs are then

[6] In order to avoid double-counting equity gains, we subtract from the combined stock market value total the value of new stock created by the conversion of previously-outstanding convertible preferred stock or convertible bonds. We also document that in several mergers (mostly in the 1970s), newly-created

calculated on the basis of the respective percentage of shares owned in the merged firm as determined by the exchange ratio. We again employ the methodology proposed by Maquieiria, Megginson, and Nail for determining bondholder VPEs based on the method utilized by Handjinicolaou and Kalay (1984). This approach involves matching each individual bond in our study with the U.S. Treasury bond outstanding with the closest maturity and yield-to-maturity (YTM) as the individual corporate bond. We then deduct the YTM of the Treasury bond from the corporate bond to determine a pre-merger yield spread. We add this yield spread to the same Treasury bond in the post-merger period and use this yield to calculate the expected value of the individual bond based on the remaining time to maturity two months after the merger is completed. The bond's VPE is calculated as the difference between actual market value and expected value. In mergers with multiple bonds, the VPEs of all individual bonds are summed to determine a merger's aggregate bondholder VPE. The aggregate bondholder VPE is then deflated by the expected value of the bond to calculate the VPE in percentage terms.

4.1.1. Stockholder returns

Application of the modified market model for stocks to the full sample of mergers yields results which are similar to those found in prior studies: target VPEs are significantly positive, acquirer VPEs are insignificantly negative, and the weighted-average VPE is insignificant. But, dividing the sample into related and conglomerate mergers produces different results. In both subsamples, target VPEs are significantly positive. However, as shown in Table 2, acquirer VPEs are a significantly positive 6.14% in related mergers and a significantly negative 5.79% in conglomerate mergers. This mean difference of 11.94% is significant at the 1% level. Weighted-average VPEs obviously reflect these results. The mean weighted-average VPE of 7.95% in related mergers exceeds the –3.90% in conglomerate mergers by a significant 11.85 percentage points (p-value < 1%). Our results strongly suggest that security markets prefer related mergers over conglomerate mergers. Subsample comparisons reveal significantly positive VPEs for most parties in related mergers, but only target shareholders experience significant VPEs in conglomerate mergers.

[Insert Table 2 about here]

4.1.2. Bondholder returns

Bondholder wealth changes are insignificant in aggregate. The average change in aggregate bondholder wealth is 1.41%, which is not significant at any meaningful level. However, splitting our sample according to relatedness reveals differing, and somewhat surprising, results. Bondholders in related mergers experience an insignificantly positive VPE of 2.11% compared to an insignificant 1.01% for bondholders in conglomerate mergers. The 1.10% difference in mean VPEs between related and conglomerate bondholders is not significant. This result implies that financial synergies are no greater in conglomerate mergers than in related mergers and, in conjunction with the stockholder results reported above, refutes the hypothesis of Lewellen that conglomerate mergers create wealth via financial synergy. These results do not necessarily contradict Higgins and Schall or Galai and Masulis as they only predict that bondholder gains in conglomerate mergers are a result of stockholder losses and our results indicate no *significant* bondholder gains along with significant stockholder wealth losses.

4.1.3. Net wealth gains

The net wealth gain for all mergers in our sample is not statistically different from zero. However, the net wealth gain for related mergers is 5.67% and is statistically significant at the 5% level. The net wealth gain for conglomerate mergers is negative but not statistically significant. Related mergers have a 9.38% greater increase in value than conglomerate mergers which is statistically significant at the 1% level. This evidence lends credence to the hypothesis that in general focusing mergers create value while conglomerate mergers do not.

4.2. Time Interval Analysis of Announcement Period Returns

If security markets correctly assess the future performance of merging firms at the time of the announcement of their intent to merge, then, ceteris paribus, the relative market value of the merged firm should not change significantly in the post-merger period. Obviously, the results presented in the previous section and in the extant literature seem to refute this. Shareholders in conglomerate mergers suffer statistically significant operating performance declines in the post-merger period as shown by Megginson,

convertible preferred stock is distributed to target firm shareholders as payment for their shares. Obviously, the market value of this newly-created stock must be combined with the outstanding common stock of the merged firm to calculate a measure of the actual market value of common equity that is truly comparable to the predicted value.

Morgan, and Nail (2004). Do these findings imply an anomaly as suggested by Agrawal, Jaffe, and Mandelker (1992) or does a rational explanation exist for this phenomenon?

A time interval analysis of announcement period VPEs reveals a rational explanation for this seeming anomaly. Consistent with Morck, Shleifer, and Vishny (1990) and Megginson, Morgan, and Nail (2004), we find that the VPEs of conglomerate mergers are significantly lower after the 1970s. As can be seen in Table 3, mean conglomerate stock VPEs fell from an insignificantly positive 2.44% in the 1970s to an insignificant 1.39% in the 1980s and to a significantly negative 9.08% in the 1990s. The percentage of positive stock VPEs fell from 57.1% in the 1970s to 47.1% in the 1980s and to 29.3% in the 1990s. On the other hand, acquirers in related mergers have experienced positive VPEs in each time interval, significantly so in the 1970s and 1980s.[7] As can be seen in Table 3, bondholder wealth changes behaved mostly as expected according to both the wealth creation and wealth redistribution theories in the 1970s. Bondholders in conglomerate mergers during that period experienced positive but insignificant VPEs on the order of 2.68%. This compares with an insignificant –3.56% related bondholder VPE in the same decade. Conglomerate stock VPEs are also insignificantly positive in the 1970s. The same holds true for the 1980s. Both bondholder and stockholder VPEs are lower in the 1980s, 1.05% and 1.39% respectively, but they remain insignificantly positive. While conglomerate VPEs are not significant throughout the 1970s and 1980s, the positive market reactions for both security classes favor the wealth creation theory over the wealth redistribution theories. The 1990s witness a very different trend. Conglomerate stock VPEs are a significantly negative 9.08% and bondholder VPEs continue to drop to an insignificant 0.17%. Taken together, these security class wealth changes result in significantly negative firm value losses. On average, conglomerate mergers result in firm net wealth losses of 8.59% in the 1990s. These results, taken in conjunction with the post-merger operating performance results reported in the previous section, are consistent with efficient capital markets that learn over time. In this case, the capital markets have learned of the failure of business diversification. The capital markets, having learned of this failure by the 1980s (and more so by the 1990s), heavily penalized the stockholders of firms pursuing conglomerate mergers after the 1980s at the time of the merger announcement. As can be seen in Table 3, the announcement period VPEs of conglomerate mergers in the 1990s is a significantly lower 20.44% than conglomerate mergers occurring in the 1970s. While financial synergies appear to have created value for bonds in conglomerate mergers in the 1970s, these gains were erased in the 1980s and 1990s as the capital markets realized that conglomerate mergers lead to operating declines that actually increased the risk of debt repayment

4.4. Correlation tests of security class wealth changes

Lewellen (1971) predicts a positive correlation between stockholder and bondholder wealth gains in conglomerate mergers due to the wealth creative effects of financial synergies. Both Higgins and Schall (1975) and Galai and Masulis (1976) predict that the correlation will be negative as the wealth gains accruing to bondholders in conglomerate mergers are perfectly offset by the wealth losses suffered by stockholders. Both of the latter studies contend that financial synergies do not create wealth in conglomerate mergers – they merely redistribute wealth from stockholders to bondholders since conglomerate mergers do not generate real gains in the form of operational synergies.

[Insert Table 4 about here]

As shown in Table 4, our full sample correlation tests agree in sign with the wealth redistribution theories. The correlation between stockholder and bondholder VPEs is a significant -0.20. Subsample results differ somewhat – related mergers have an insignificant correlation of 0.05 while conglomerate mergers have a significant coefficient of -0.22. Temporal analysis reveals a very different relationship between conglomerate bondholder and stockholder VPEs over time. The correlation between the two security classes' wealth changes is an insignificantly positive 0.24 in the 1970s, declines to an insignificant 0.06 in the 1980s, and becomes significantly negative at –0.30 in the 1990s. The correlation reported for the 1990s reflects the significantly negative VPEs of stocks and virtually break-even results of bonds. The wealth redistribution predictions of Higgins and Schall and Galai and Masulis regarding synergies and wealth effects appear to be more accurate than the wealth creation predictions of Lewellen, especially in later years as the capital markets have learned of the failure of corporate diversification. As predicted in the wealth redistribution theories, net wealth creation is the result of operating synergies rather than financial synergies. Operating synergies created in related mergers lead to greater operating cash flow returns that in turn create stockholder and bondholder value. Their assumption of zero operating

[7] The 4.50% related stock VPE in the 1990s has a p-value of 11%.

synergies and zero net wealth creation in conglomerate mergers is the flaw in their models. Conglomerate mergers actually result in negative operating synergies, leading to the stockholder wealth losses predicted. However, the diminished cash flow resulting from these mergers also makes their debt more risky – negating any gains from financial synergies. Thus, bondholders do not capture all of the losses suffered by stockholders in conglomerate mergers, resulting in significant wealth losses rather than wealth redistribution.

5. Conclusions

In this paper we re-examine the wealth effects for stockholders and bondholders in a sample of pure stock exchange mergers. For the entire sample and time period we find that value is not created or destroyed. However the results are very different when we split the sample according to related and conglomerate mergers and when we examine the results over the 3 decades in our sample. For the full sample target stockholders gain and acquiring bondholders gain while results are insignificant for other security holders. When we split the sample into related and conglomerate mergers we find that both acquiring and target stockholders gain while bondholders do not lose resulting in a net gain for related mergers. When we examine conglomerate mergers we find that acquiring stockholders have losses while target stockholders have gains. There is no effect on bondholders. Over time these results change. In the 1970s we find evidence that both related and conglomerate mergers are similar in wealth impact and do not destroy value. However, by the 1990s we find that conglomerate mergers destroy value and related mergers do not. For the entire sample period and the most recent period of the 1990s we find that stockholder and bondholder wealth is negatively correlated for conglomerate mergers indicating that wealth is transferred from stockholders to bondholders.

Our results indicate that neither the wealth creation hypothesis of Lewellen (1971) nor the wealth redistribution theories of Higgins an Schall (1975) or Galai and Masulis (1976) hold. However, a significantly negative relationship exists between stockholder and bondholder wealth changes in conglomerate mergers which occurred in the 1990s. Conglomerate mergers did not result in significant stock or bond wealth creation in any of the three decades studied refuting Lewellen's wealth creation theory. Over the last decade, capital markets have penalized the stockholders in conglomerate mergers with significant wealth losses. Bondholder wealth changes are insignificantly positive, resulting in significant net wealth losses for conglomerate mergers in the 1990s. Although the assumption of zero net wealth changes in conglomerate mergers is violated, the negative correlation between stockholder and bondholder wealth changes in the 1990s is consistent with the wealth redistribution theories.

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Appendices

Table 1. Description of Sample

1970-1979 Observations		27
Related	6	
Conglomerate	21	
1980-1989 Observations		38
Related	21	
Conglomerate	17	
1990-1999 Observations		63
Related	22	
Conglomerate	41	
All Years		128
Related	49	
Conglomerate	79	

Table 2. Stockholder, bondholder, and net merger VPEs

Full Sample (n = 128)		
Acquirer stockholder VPE	-1.47%	
Target stockholder VPE	30.33%	*
Weighted-average stockholder VPE	-0.45%	

Acquirer bondholder VPE	1.91%	
Target bondholder VPE	0.87%	***
Weighted-average bondholder VPE	1.41%	
Net wealth gain	-0.14%	
Related Subsample (n = 49)		
Acquirer stockholder VPE	6.14%	*
Target stockholder VPE	38.08%	*
Weighted-average stockholder VPE	7.95%	*
Acquirer bondholder VPE	2.09%	
Target bondholder VPE	0.50%	
Weighted-average bondholder VPE	2.11%	
Net wealth gain	5.67%	
		**
Conglomerate Subsample (n = 79)		
Acquirer stockholder VPE	-5.79%	***
Target stockholder VPE	38.55%	*
Weighted-average stockholder VPE	-3.90%	
Acquirer bondholder VPE	0.93%	
Target bondholder VPE	1.22%	
Weighted-average bondholder VPE	1.01%	
Net wealth gain	-3.71%	

* Significant at the 1% level
** Significant at the 5% level
*** Significant at the 10% level

Table 3. Stockholder, bondholder, and net merger VPEs by time period

1970s Subsample (n = 27)		
Related stockholder VPE (n = 6)	21.07%	*
Conglomerate stockholder VPE (n = 21)	2.44%	
All 1970s stockholder VPE	6.58%	***
Related bondholder VPE (n = 6)	-3.56%	
Conglomerate bondholder VPE (n = 21)	2.68%	***
All 1970s bondholder VPE	1.30%	
Related net wealth gain (n = 6)	12.04%	
Conglomerate net wealth gain (n=21)	2.84%	
All 1970s net wealth gains	4.88%	***
1980s Subsample (n = 38)		
Related stockholder VPE (n = 21)	7.84%	**
Conglomerate stockholder VPE (n = 17)	1.39%	
All 1980s stockholder VPE	4.76%	***
Related bondholder VPE (n = 21)	1.34%	
Conglomerate bondholder VPE (n = 17)	1.05%	
All 1980s bondholder VPE	1.21%	
Related net wealth gain (n = 21)	5.81%	
Conglomerate net wealth gain (n = 17)	0.53%	***
All 1980s net wealth gains	3.44%	
1990s Subsample (n = 63)		
Related stockholder VPE (n = 22)	4.50%	
Conglomerate stockholder VPE (n = 41)	-9.08%	***
All 1990s stockholder VPE	-4.77%	
Related bondholder VPE (n = 22)	4.62%	***
Conglomerate bondholder VPE (n = 41)	0.17%	
All 1990s bondholder VPE	1.59%	
Related net wealth gain (n = 22)	-3.62%	
Conglomerate net wealth gain (n = 41)	-8.59%	***
All 1990s net wealth gains	-4.71%	

*Significant at the 1% level **Significant at the 5% level ***Significant at the 10% level

Table 4. Correlations between stockholder and bondholder VPEs

Correlation between stockholder and bondholder VPEs for full sample:	
All	-0.20*
Related	0.05
Conglomerate	-0.22**
Correlation between stockholder and bondholder VPEs for 1970s:	
All	0.26
Related	0.76*
Conglomerate	0.24
Correlation between stockholder and bondholder VPEs for 1980s:	
All	0.00
Related	-0.03
Conglomerate	-0.06
Correlation between stockholder and bondholder VPEs for 1990s:	
All	-0.28*
Related	0.00
Conglomerate	-0.30**

* Significant at the 1% level
** Significant at the 5% level
*** Significant at the 10% level