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Characteristics of Mergers & Acquisitions – A Survey on Value Creation, Synergies, and Market Cyclicity

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CHARACTERISTICS OF MERGERS & ACQUISITIONS – A SURVEY ON VALUE
CREATION, SYNERGIES, AND MARKET CYCLICALITY

by

Eric Hale

A thesis submitted in partial fulfillment of the requirements
for graduation with Honors in the Business

Amrita Nain
Thesis Mentor

Fall 2017

All requirements for graduation with Honors in the
Business have been completed.

Jennifer Blair
Business Honors Advisor

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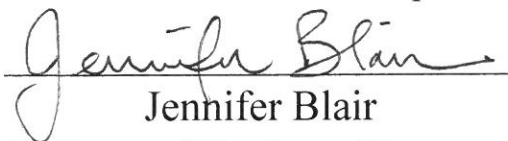
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Characteristics of Mergers & Acquisitions – A Survey on Value Creation, Synergies, and Market Cyclicity*

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Abstract

This paper identifies and explains pervasive themes in existing research surrounding mergers and acquisitions (M&A) and posits potential topics for future research. A primary goal of M&A is to increase shareholder wealth. Thus, value creation lies at the heart of the debate surrounding the legitimacy of M&A as an avenue for corporate growth. Further, in order to generate positive returns for shareholders, the transaction must achieve synergies – either operational or financial. The sources and relative importance of these synergies will be explored. Historically, the M&A market has been cyclical. The paper aims to summarize causes for merger waves and their impact on shareholder returns through an extensive review of existing theoretical and empirical research on the transactions. Finally, because M&A transactions often include additional aspects (e.g. restructuring, bankruptcy, etc.), I suggest future research target the impact of any added complexities to an M&A transaction.

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1. Introduction

A multitude of research exists characterizing the M&A process from start to finish. However, as the market continues to evolve, regularly reviewing existing research on the topic is necessary to remain adequately informed.

First, this paper reviews existing literature in regards to whether M&A creates value for the acquiror, the target, or both. To evaluate the overall value creation proposition, the most reliable research considers combined cumulative abnormal returns (CARs) from the transaction. This metric aggregates abnormal returns for both the acquiror and target and then combines the two values on an equally-weighted basis. On balance, research shows that while CARs for announced transactions are positive, acquiring firms, on average, lose wealth, while target firms gain wealth. Since research can identify there are winners and losers in M&A, the paper proceeds to analyze theoretical and empirical research to determine the underlying causes of the lack of value creation for acquirors. There exists a size effect which causes large acquirors to lose value, while small acquirors gain value. Explaining the drivers of the size effect yields insight into what lies at the foundation of value creation for acquirors.

Recognizing that value creation exists is valuable in the abstract, but the paper adds depth to the value creation proposition by reviewing main conclusions reached in existing research on the sources of value. Managers regularly cite synergies as a main justification for engaging in M&A. Synergies are characterized in two ways – operational or financial. Existing research shows that operational synergies, either increased revenue/decreased costs or decreased capital investments, are the primary statistically significant source of value. Financial synergies, cost savings from tax benefits post-transactions, have been found to have little to no statistical

significance in generating value for an acquiror. Further, research has taken multiple approaches to identifying synergistic gains, many of which are discussed.

Finally, I analyze research that addresses market cyclicalities. While the existence of merger waves is a consensus among the research community, the underlying causes for the waves are not. Independent of nearly constant similarities across all waves, the paper uncovers various hypotheses attempting to explain the phenomenon. A popular opinion within theoretical and empirical research holds that merger waves may be driven by market misvaluation. Market inefficiencies exist and are interpreted differently in relation to the way acquirors act upon them. Alternative postulations conclude that the M&A market becomes more active in response to significant industry shocks or in an attempt to diversify the business. Finally, this paper discusses the evidence that supports the hypothesis that mergers announced during merger waves are associated with worse returns.

These findings are influential to analyzing the impact of conducting an M&A process. The strategy has long been utilized as a means for corporate growth, but it is paramount to be able to understand whether value is likely to be created, where the value will come from, and when in the market cycle the value is most likely to be achieved.

2. Value Creation

2.1 Do Mergers Create Value?

When determining whether or not mergers create positive value for shareholders, research focuses on cumulative abnormal returns (CARs) for either the acquiror, target, or both during the three-trading-day event window surrounding the deal announcement ($[-1,+1]$). While $[-1,+1]$ is the main event window that is used in the research that this paper primarily reviews,

significant amounts of research aim to capture long-term returns by considering an event window that starts several days prior to the announcement of the merger and ends at the eventual close of the transaction. Considering the short event window forces the data to reflect the immediate reaction from the announcement and ignore the wealth impact that would occur if a merger were to fail before closing. Additionally, efficient market theory would suggest that stock prices should move quickly to adjust for new publicly available information (see Andrade, Mitchell, and Stafford 2001 and others). Thus, the question of value creation for this paper will primarily be framed within the $[-1,+1]$ parameters.

Literature agrees that M&A creates value, as identified by positive, statistically significant combined CARs (the aggregated abnormal returns for both the acquiror and target that are then combined on an equally-weighted basis). Using 3,688 completed mergers from 1973-1998, combined CARs ranged from 1.4% to 2.6% by decade and averaged 1.8% overall (Andrade, Mitchell, and Stafford 2001). Studying over 2,100 mergers from 1962-1996, the average combined CAR for vertical mergers (transactions that grant the bidding firm control over a target operating in “adjacent stages of production”) is 2.5% (Fan and Goyal 2006). Though vertical mergers account for a relatively small portion of total mergers during a similar time period, combined average CARs remain positive when considering the entire sample of mergers. Neither study identified a clear pattern or trajectory for value creation over the span of the observed range. On the surface, M&A appears to be a viable alternative to organic growth for corporations, but stratifying the data to show CARs for acquirors and targets independently yields different implications.

2.2 Who Receives Value From M&A?

On balance, value creation from M&A for acquirors is break-even, at best. Using a set of 1,086 public takeovers occurring from 1985-2002, the acquirors' CARs were -0.52%. The frequency distribution of CARs for acquiring firms shows a regular distribution, centered slightly below 0.0% (Hackbarth and Morellec 2008). These results appear to be in line with existing research and indicate that the majority of acquiring firms' shareholders do not receive value gains.

The majority of the time, M&A provides value to the target firm. Research published in the early 1980's and 1990's show average CARs for target firms in the 20-30% range (Bruner 2002). Though more recent studies indicate slightly lower CARs for target firms, the target firm is still "winning" at a statistically significant level. Andrade, Mitchell, and Stafford (2001) found that target firms experience a 16.0% gain from [-1,+1], a number that increases to 23.8% when considering a longer event window of [-20, Close]. A more recent study shows that target firms achieve CARs of 18.2% over [-1,+1]. These findings are statistically significant and different than zero at the 1% level. As for the frequency distribution of CARs for target firms, the distribution is skewed right, with the highest frequency (240+ transactions) achieving between a 0-5% CAR (Hackbarth and Morellec 2008). These results are also consistent with available theoretical and empirical research.

Bradley, Desai, and Kim (1988) use a sample of 236 majority tender offers, to evaluate the division of synergy gains between acquiror and target. The study takes a broader approach to identifying synergy gains as "any number of value-creating mechanisms that fall under the general rubric of corporate synergy". Therefore, any increase in wealth of the shareholders of the acquiror and target constitute a synergy gain. By evaluating the combined changes in wealth of the shareholders of both parties, the average synergy gain was 7.4%. On a mean dollar gain

basis, the target firm captured 91% of the created wealth, approximately a 6.8% gain. The wealth is realized by the target because the target maintains the ability to restructure a value-dilutive offer to being value-accretive, otherwise the target would decline the offer.

2.3 Evidence for the Size Effect

There is a size effect in CARs for acquiring firms. The size effect is apparent as indicated by the frequency distribution of CARs for acquirors – close to half of the acquiring firms do experience positive CARs. The size effect also becomes clear as there is a disparity between positive average CARs for acquirors, yet the total dollars distributed to shareholders of acquiring firms is negative (Moeller, Schlingemann, and Stulz 2004).

The aforementioned study of 12,023 acquisitions from 1980-2001 yields slightly different data in comparison to most research. The sample experienced a 1.1% average gain for acquirors. However, when evaluating the dollar value of all gains and losses from transactions, shareholders of the acquiring firms lost an average \$25.2 million upon announcement. Thus, a size effect is apparent because few, large losses by large acquirors mask a multitude of smaller gains by small acquirors. As such, the study found that small acquirors (firms with market capitalization below the 25th of percentile of all NYSE firms for the year of the deal's announcement) achieved CARs of 2.32%, significant at the 1% level. In comparison, large acquirors achieved CARs of 0.1%, not statistically significant (Moeller, Schlingemann, and Stulz 2004). The existence of a size effect within acquiring firms is important when analyzing mergers because the anomaly shows that mergers do create value for a significant number of acquirors' shareholders.

2.4 Explaining the Value Creation Discrepancy

There is no single, definitive underlying cause for the size effect and subsequent value creation for small acquirors in comparison to their larger counterparts. Instead, research has posited multiple theories that relate to the beneficial outcomes of the way small acquirors act. Given the relatively limited access to capital that small acquirors have, the firms have to target smaller companies (e.g., private companies). Research shows that, for seasoned acquirors (having made five or more acquisitions), targeting private firms can create more value than a public-to-public transaction (Fuller, Netter, and Stegemoller 2002). Next, small acquirors prefer to use cash, not equity, to finance a transaction irrespective of whether the target is private or public. This strategy benefits small acquirors because equity-financed takeovers of public targets typically occur during periods of market overvaluation, leading to negative post-announcement returns (Savor and Lu 2009). Finally, comparing equity- versus cash-financed takeovers of private companies, the returns are indistinguishable due to the transaction's similarity to a private placement (Chang 1998).

M&A has an inherent and inevitable human component. And, per human nature, managers are motivated by envy. Should a competitor grow through acquisition, other managers in the industry become envious of the competition's new size and seek to grow accordingly (Goel and Thakor 2010). Further, managers follow the acquisition decisions of other industry players for fear of falling behind. Managers disregard personal signals and assume the competing acquiror is acting rationally under information the lagging firm does not have access to (Banerjee 1992). In the ultra-competitive corporate world, when envy and herd behavior pair with a manager's hubris, value-dilutive mergers can occur with little to no rational justification.

An alternative conception of the implication of managerial hubris relies on attempting to determine a fair value of a target. On average, the "hubris hypothesis" suggests, on average,

acquirors overpay for targets. Because the trading price of the target's equity serves as a price floor for any takeover bids, the acquiror must automatically assume some degree of synergy gain from the transaction (Roll 1986). Managers may believe the true valuation of an asset is below the price floor but will continue to pursue acquisitions because they have had success in the past, driving value-dilutive mergers for the acquirors' shareholders (Rosen 2006).

These hypotheses are crucial to understanding why many large acquirors' mergers are value-dilutive for the firm's shareholders when conducting an M&A process. Large acquirors operate much differently than small acquirors and are fundamentally opposite of the target. These differentiating characteristics leave the large acquirors as the sole subset of agents in an M&A process that rarely experience value creation for shareholders.

3. Synergies

Since research concludes that M&A does create value and can identify who experiences the value, the next objective is to understand the source of the value. Corporate managers often reference value creation from "synergies" as a justification for M&A. So, if synergies do increase the performance of a company, then there within should lie the cause of positive post-announcement returns. Existing research generally agrees but also highlights alternative sources of value.

3.1 What Are Synergies?

In M&A, "synergies" are meant to describe a benefit that comes as a result of merging the bidding and target firm. These benefits are typically divided into two major subgroups – operational synergies and financial synergies. Operational synergies are characterized by operational improvements (e.g., higher profit due to increased revenue/decreased cost or

decreased capital expenditures due to the target firm's existing resources). Financial synergies are primarily tax benefits obtained as a result of merging the two entities (Devos, Kadapakkam, and Krishnamurthy 2009).

3.2 Synergies as a Source of Value

Research regarding the validity of synergy realization varies based on the methodology of the respective studies. A primary method of observation is ex post facto analysis of operating performance as indicated by accounting metrics (Devos, Kadapakkam, and Krishnamurthy 2009). These methods have been problematic as they have created a mass of contradictory research. Ghosh (2001) finds no evidence that operating performance improves post-merger. The paper rejected the trend of analyzing operating cash flow performance benchmarked against industry-median firms, a method that suggests operating performance does increase post-acquisition. Because merging firms tend to engage in M&A following periods of good performance, non-random measurement errors occur as a result of using the industry-median firms as a benchmark. Instead, the paper follows the research design of Barber and Lyon (1996) in order to account for superior pre-acquisition performance and size. As such, the paper benchmarks pre- and post-acquisition operating cash flow against matched firms (a firm that is similar on a pre-acquisition performance and size basis). The results from analyzing 315 acquisitions occurring between 1981 and 1995 showed that post-acquisition operating cash flow does not increase when benchmarking against matched firms (Ghosh 2001). In contrast, Heron and Lie (2002) used ex post facto accounting metrics and found that operating performance does improve post-acquisition. Instead of evaluating operating cash flows, the study evaluated operating income scaled by sales, in order to nullify the impact of the accounting or financing methods for the merger. The paper also benchmarked operating performance to matched firms,

however the firms were match on industry classification and pre-acquisition performance. However, after analyzing 859 acquisitions occurring between 1985 and 1997, it was found that acquirors do experience significant improved post-acquisition operating income scaled by sales in comparison to their matched firm.

To avoid the controversy created by evaluating ex post facto accounting methods, Devos, Kadapakkam, and Krishnamurthy (2009) use Value Line cash flow projections. These projections are compared to the realized cash flows of the merged entity in order to decompose the types of synergies and how impactful they are on the merged entity. Using this strategy to analyze 264 mergers from 1980-2004, a study revealed that the mean value of total synergies per transaction was 10.0%. Additionally, the research showed that financial synergies provide much less value (1.6%) than operational synergies (8.4%). Further decomposing operational synergies, the study showed that decreased revenue/increased costs were value detracting (-4.9%) and decreased capital expenditures (13.3%) was the most important of the sample's mean synergies (Devos, Kadapakkam, and Krishnamurthy 2009). These data indicate that are a source of value in M&A, and the overwhelming majority of the value comes from the reduction of capital expenditures post-merger.

Using Value Line forecasts has multiple advantages when evaluating synergies realized from M&A. Rather than considering stock prices or accounting metrics that could be manipulated, Value Line forecasts allow for the underlying sources of synergies to be uncovered. Further, the Value Line forecasts are not vulnerable to the subjective nature of management forecasts. Previous studies that considered management studies are susceptible to selection and/or optimistic biases. Using management forecasts is particularly problematic as managers tend to aggregate the synergies from the transaction, rather than cede to the fact that the gains

should be realized over time. Because Value Line forecasts provide an objective, standardized projection for the short-term and medium-term, the paper was able to measure the timing and relative importance of the various components of the synergies from the transaction. While the sample size is relatively small, the paper's sample avoids the noisy data that can stem from ex post facto accounting data (Devos, Kadapakkam, and Krishnamurthy 2009). The long time series of data utilized in ex post facto methods can lead to inaccurate conclusions regarding the synergies realized from the transaction (Kaplan, Mitchell, and Wruck 2000). Typically, the time gap between the Value Line forecasts for the acquiror and target and the projection for the combined entity is three months. The shorter time period reduces the likelihood that survivorship bias or noisy data would skew any results (Devos, Kadapakkam, and Krishnamurthy 2009).

Another method of synergies analysis is to hone in on a single industry as a proxy for the market. This allows for researchers to eliminate confounding variables and isolate the cause of value creation. Using 384 electric and gas utility transactions from 1980-2004, Becher, Mulherin, and Walkling (2012) differentiated between value from collusion versus synergies by analyzing the performance of rivals of the merged entity. Should the rivals perform better post-merger, then collusion is likely at play because all parties can agree to raise prices or pressure suppliers to reduce costs. Alternatively, should the rivals' performance decline, then synergies were likely achieved because the merged entity is operating more efficiently and competing more effectively in the industry. Using empirical data paired with theoretical analysis, the results indicated that collusion was the primary source of value for mergers during 1980-1992, but the source then shifted to synergies throughout the remainder of the observation period.

An alternative school of thought for value creation analyzes acquiror and target merger announcement returns based on managers' *estimated* operational synergies realized through cost

savings. Rather than assuming the market relies on historical success of synergies, Houston, James, and Ryngaert (2001) imply that the value creation hinges on managerial guidance. Using bank mergers, a subset of mergers that historically has had little to no success in realizing synergies, as a proxy, the study finds a positive correlation between post-announcement returns and projected cost savings. The findings are unique because Devos, Kadapakkam, and Krishnamurthy (2009) found that synergies are not realized through revenue increases and/or cost decreases (i.e. revenues decrease and/or costs increase post-acquisition).

4. Market Cyclicity

The existence of market cyclicity is one of the most widely discussed topics within the field of M&A. With an identifiable source of value in M&A that all managers can see, the existence of market cyclicity, or merger waves, is unique. The final section of this paper will discuss why mergers, despite having attainable value, continue to occur in waves, rather than a steady stream of announced transactions. This paper concludes with analysis of literature's perception of the impact of merger waves on the quality of mergers that are announced during the wave.

4.1 Evidence and Hypotheses for Merger Waves

Research unanimously concludes that mergers tend to occur in waves. As far back as Nelson (1959), the concept of merger waves has continued to be a point of interest for academics. Literature has attempted, and will undoubtedly continue, to pin down similarities that are constant across all waves. Most notably, consensus indicates that merger waves are almost always accompanied by periods of high market valuations and equity-financed transactions (Mitchell and Mulherin 1996).

Though mergers are similar in structure, intensity, etc., each wave is entirely distinct. This extreme level of differentiation is due to the varying causes for each. Despite the differentiating factors of the waves, one thing remains in common – merger waves are concentrated by industry. Research has identified multiple hypotheses for the existence of merger waves, each explaining why mergers do not occur at a constant rate.

4.1.1 Industry-Specific Shocks

Merger waves could occur in response to any number of potential industry-specific shocks like oil price changes, foreign competition, financial innovations, etc. (Mitchell and Mulherin 1996). As the industry is restructuring, firms follow suit and restructure through non-organic growth. The most significant industry-specific shock that has driven waves is deregulation. Research suggests that new investment opportunities and destruction of regulatory barriers prohibiting consolidation could be reasons why newly deregulated industries provide such a lucrative platform for acquisitions (Andrade, Mitchell, and Stafford 2001).

4.1.2 Market Misvaluation

Rhodes-Kropf and Viswanathan (2004) developed a theoretical model to identify a relationship between market overvaluation and merger waves. Due to information asymmetry, a firm cannot differentiate firm-specific events from market-wide occurrences. Regardless, if the market is only slightly overvalued, the target can accurately reduce the value of an equity-financed acquisition offer. However, as the degree of market-wide overvaluation grows, the target will begin to overestimate projected synergies and become decreasingly capable of discerning the correct value. Alternatively, if a target becomes overvalued due to a firm-specific event, the target assumes that accurately priced equity-financed offers are not sufficient to satisfy

the fiduciary duty of increasing value to shareholders. Thus, the model predicts that waves are caused by overvalued sectors and will halt upon the market crashing from players losing faith in the M&A market after learning the accurate information about synergies.

Additional research has attempted to bolster the theoretical model's prediction with empirical analyses of market-to-book (M/B) ratios. Rhodes-Kropf, Robinson, and Viswanathan (2005) approached the analysis through decomposing M/B of 4,325 acquirors from transactions spanning from 1978-2001. Highlighted results show that overvalued acquirors purchase targets that are less overvalued during times when the entirety of the market is overvalued to some degree. Further, increasing merger activity is directly correlated with periods of short-run overvaluation from the firm's long-run trend, particularly for mergers financed with equity. The study concluded that misvaluation does affect merger decisions.

Shleifer and Vishny (2003) propose a similar theoretical analysis in which valuation drives merger waves. Much like Rhodes-Kropf and Viswanathan (2004), the model assumes market inefficiencies. But, instead of managers falling victim to market misvaluation, the model suggests that managers are entirely rational and capable of identifying select anomalies of misvaluation. Therefore, firms participate in merger arbitrage to exploit the market's misvaluation, creating merger waves.

Ang and Cheng (2006) aimed to provide empirical support for the market-driven acquisition theory through an approach that evaluated the market-to-book ratio (P/B) for acquirors from 3,862 transactions occurring from 1981-2001. The median acquiror overvaluation was 35.7%, mean acquiror overvaluation was 19.0%, and there is a positive correlation between percentage of stock offers and median overvaluation for a given year. The results support

Shleifer and Vishny (2003) as overvaluation increases the probability that firms will conduct equity-financed transactions.

4.1.3 Diversification

Conglomerate mergers first became a wave in the 1960s. Though the wave has since receded, new conglomerates continue to form and follow a similar pattern. If an acquiror feels as if the industry is overvalued, the acquiror will likely explore adjacent industries for diversification opportunities. This diversification strategy allows the conglomerates to increase their claim to long-term capital through a less expensive, competitively advantageous avenue (Shleifer and Vishny 2003). In a battle to maintain market share and equitable access to capital, other firms will diversify and create a merger wave.

4.3 Quality of Mergers Announced During Merger Waves

Literature on the quality of mergers that occur during waves, focuses on both short-run and long-run returns. Irrespective of the underlying driver of the merger wave, evidence shows that mergers announced during merger waves provide acquiror shareholders breakeven returns, at best. More likely, however, is that acquiror shareholders will achieve negative returns.

Rosen (2006) analyzed 6,259 mergers occurring from 1982-2001 in attempt to identify “merger momentum” and what impact the momentum had on returns to acquiring firm shareholders. Initially, when comparing average CARs to the number of announced mergers for that year, there appears to be no noticeable trend. However, the sample yielded an average acquiror CAR of 1.9% for [-2,+2], which was positively correlated to merger momentum at a statistically significant level. Thus, merger waves do exist and announcing an acquisition on the rise of a merger wave yields better CARs than announcing an acquisition on the decline of the

wave. These results remain constant irrespective of the financing stipulations of the merger. Rosen (2006) analyzed long-run returns using the BHAR method for two separate event windows, $[-2,+3y]$ and $[+3,+3y]$. The data showed statistically significant, negative coefficients of greater magnitude than the positive coefficient for the short-run returns. The coefficient indicates firms who announce during a merger wave experience a long-run negative impact on their stock price. Additionally, firms who announce during a merger wave actually end up with a lower stock price than had the firm announced during a merger recession. Even after combining the positive short-run returns with the long-run results, a merger announced during a merger wave does worse than a merger announced during a merger recession.

Other empirical papers also find differences in value creation across separate merger waves. For example, Bouwman, Fuller, and Nain (2009), evaluating 2,944 transactions occurring between 1979 and 2002 using the difference in two-year BHARs for high-and low-market acquisitions, concludes that there are differences in value creation over different merger waves, but the differences do not drive the overall underperformance of acquisitions during periods of high market valuations. (Bouwman, Fuller, and Nain 2009). Dong, Hirshleifer, Richardson, and Teoh (2006) also conclude that there are valuation differences across the cycles of mergers. The study uses price-to-book value of equity (P/B) and price to residual income value (P/V) to evaluate 3,732 announced transactions occurring between 1978 and 2000. The paper concludes that there is a difference in value creation across cycles as high bidder valuation is associated with low returns during the 1990's, but not during the 1980's (Dong, Hirshleifer, Richardson, and Teoh 2006).

Additionally, Ahern, Daminelli, and Fracassi (2012) found that national culture can impact the existence of merger waves and the synergy gains that stem from transactions

occurring during the waves. The paper identifies three primary cultural characteristics: trust, hierarchy, and individualism. When considering cross-border mergers between countries that differ at the 25th percentile for a given characteristic, only differences in hierarchies yield positive CARs. Distance in trust yields a -0.059% CAR and distance in individualism yields a -0.081% CAR. These results are consistent with economies of scale. The study increased the cultural distance between the two parties involved to the 75th percentile and found that CARs decreased as well. When considering trustfulness, the jump to the 75th percentile led to a 28% reduction from the median CAR and a 16% reduction of the average CAR. As for individualism, an equitable drop in CARs exists. To quantify the poor quality of mergers that occur during waves, the study found that median-size firms lose between \$12 and \$14.6 million and average-size firms lose between \$47 and \$57 million. The paper concludes that because cultural distance can create costly frictions and lead to organizational inefficiencies, cultural differences do have a negative impact on merger gains (Ahern, Daminelli, and Fracassi 2012).

5. Conclusion

5.1 Summary of Findings

This paper identified and explained pervasive themes in existing theoretical and empirical research surrounding M&A and will posit potential topics for future research.

Overall, research indicates that M&A does create some aggregate value for both parties involved in the transaction. After breaking down the data, it becomes clear that the overwhelming amount of value is realized by the target firm. However, of acquiring firms, there are still a significant amount of firms creating value for their shareholders. The discrepancy is

explained by the size effect, which indicates that the large acquirors are value detracting on such a scale that the consistent value creation by small acquirors is overshadowed.

After determining that there is value in M&A, research shows that the value is recognized from synergies. Various methodologies to study the existence of synergies as a value source generally reach similar conclusions. Operational synergies, and decreased capital expenditures in particular, account for the majority of synergies realized. Just as the value as expressed by CARs is distributed between acquiror and target, synergies follow the same pattern. The target realizes almost all of the synergy gains as a result of the additional resources from the acquiror.

Finally, research identified market cyclicalities and how to time the market to obtain the greatest amount of synergistic gains. While the existence of merger waves is undeniable, the causes for the cyclicalities are not. Industry shocks, diversification, and, most discussed, market misvaluation are all often referenced hypotheses in existing literature. Analysis regarding the quality of acquisitions announced during merger waves showed that in order to achieve optimum returns for acquiror shareholders, mergers should be announced during a merger recession, rather than a merger wave.

5.2 Further Research

The existing literature raises multiple questions that provide additional research opportunities.

First, even though large acquirors are experiencing breakeven returns, at best, deal size continues to grow and large acquirors continue to pursue non-organic growth. It is clear that the distinctly different behavior of smaller acquirors yields better CARs, so I suggest that research uncover the motivation of large acquirors to maintain course and achieve little to no value.

It is consensus to assess value creation on over a [-1,+1] event window. However, as shown by the analysis of merger quality during merger waves, short-run returns can be misleading. I suggest future research combine short-run and long-run event windows to provide a more holistic view of the value creation picture.

Finally, I suggest that future research delve into the impacts of varying deal characteristics on combined CARs. For example, larger transactions include additional complexities like unique consideration, restructuring, bankruptcy, etc., but current data only reflect a standard announced takeover bid.

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