The Evidence on Mergers and Acquisitions: A Historical and Modern Report

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Abstract

We review historical and current research on mergers and acquisitions. The literature is extensive. After a discussion of earlier survey articles (our "survey of the surveys"), we provide a review of more than 120 M&A related-articles published in leading finance journals since 2011. A basic important finding in the early M&A literature is that, on average, M&A activity creates wealth. Following this finding, researchers in the 1980s through 2000s studied how the process and the parties in the deals worked, the motivations for M&A, and the sources of the wealth gain. We note that much of the recent work represents straight-forward extensions of earlier research, such as the impact of characteristics of the board of directors on acquiring firm stock returns, but there is also much that is new. For example, the availability of new executive databases has led to research that has been key to understanding the importance of networking and relationships in M&A. Changes in globalization and better understanding of cross-country cultural, political and economic differences has led to using new international databases to test the international generality of relations observed in the US and to examine the factors that come into play in cross-border acquisitions. Importantly, we provide perspective on the historical development of the study of M&A, offer caveats to remember when interpreting the research of others or designing one's own research and note the importance of incrementalism in our overall understanding of the value of research in M&A.

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1. Introduction

Merger and acquisition (M&A) transactions are some of the most significant actions taken by firms both as buyers and sellers. In addition, the transactions are fundamental to the interests of investment bankers, securities lawyers, government regulators, employees and lobbyists. An extensive empirical literature in finance has been motivated by the number of transactions, the value of transactions, the variation in deal premiums paid and structure of deals, the search for understanding of the causes and effects of M&A transactions, and the number of different parties involved in these transactions. The basic questions investigated are why and when do M&A transactions occur, what are the processes used, and what are the economic effects of the transactions. However, these are very complex questions since the answers will vary across many fundamental factors including the transaction type, the time period and the specific characteristics of the firms involved. In addition, as in any corporate governance question, since the basic questions interact, there are significant endogeneity issues impacting the validity of the estimated relationships. All these factors combined make the interpretation of empirical findings difficult, and thus we stress the importance of an examination of the whole literature rather than overemphasis on any one work. Further, we take a history of science approach, in that we try to trace the development of the study of M&A and thus see how the new work has added to our knowledge.

Our goal in this survey of the "historical" (pre-2011) and recent literature on M&A is to review the basic themes of what has been studied and thus provide evidence on what we know and do not know about M&A at this time. We characterize the new research analyses by the general area they study though, of course, no classification scheme can completely capture the

varying themes of the research. However, hopefully our broad categories provide insights into the areas of research that have been emphasized in the last few years. We concentrate our efforts on reviewing empirical works, though the theoretical literature in this area is also extensive. The many varying approaches and conclusions that are documented in this survey suggest that it would be wrong to look for one explanation or one conclusion about the causes and effects of M&A. However, the overwhelming evidence from both the historical and recent studies confirm the existence of wealth gains from M&A transactions as measured by the market reaction to the deal, a benchmark that is widely accepted in the finance profession.

We begin with a review of several of the existing articles and books surveying mergers and acquisitions. We do not attempt to replicate the synthesis of research at the time that the earlier surveys were written since the authors have already done so well. We follow our "survey of the surveys" with summaries of articles on M&A published recently in major finance journals. Our review of the recent M&A empirical research focuses on articles published in 2011 or later. Given the extensive published work in this area, we apologize to those authors whose work we may have overlooked or left out due to fit concerns. We have also made decisions about areas of research to not cover in depth. For example, private equity and venture capital firms are important players in the M&A market. We do not try to review the large literature on the organizational structure of these firms, their financing, their overall portfolio decisions, or similar considerations. We leave that for researchers working in that area. The M&A literature is large; each article generally contributes only a piece of the puzzle but put all of the research together and we can argue that we know a significant amount about the causes and effects of M&A. Of course, there is still much to be learned and, as the world changes, the research on M&A will continue to evolve.

We include more than 120 articles focusing on empirical work in M&A. We selected our reviewed articles primarily from several leading finance journals, including the Journal of Finance, the Journal of Financial Economics, the Review of Financial Studies, the Journal of Financial and Quantitative Analysis, Financial Management, Critical Finance Review, the Review of Finance and the Journal of Corporate Finance (which we have edited or co-edited for 25 years). We summarize more than 120 articles, which is a large but not a dominating part of finance research published in 8 journals over 6 years. (Again, we note that we are certain we have missed some articles or made decisions to not include others on the basis of fit.) In using this list of leading journals, we may be furthering what Hoffman (2017) describes as "warping the scientific process by narrowing the scope of impact to one type of journal, which reaches one type of audience using one type of content and style." In addition, we do not look at accounting, economics, law, marketing, government publications and management journals, or the journals of other social sciences. All of these disciplines have produced an extensive literature on M&A.

While the research approach may vary across the disciplines, most of the social science disciplines have contributed significantly to the understanding of M&A. The interrelationships between these disciplines is stronger than is generally recognized. Summers (1985) provides a warning to those who do not incorporate the analysis of other disciplines into their own research in his article on "ketchup economics." Summers suggests that classical economists study fundamental factors that might affect supply and demand for ketchup while ignoring knowledge gained from actual transactions, while financial economists focus on transaction information at the expense of understanding the fundamental factors affecting the ketchup economy. In ignoring the work of the other group, each set of researchers will produce incomplete research. Significant work on M&A has been done in many disciplines that is more closely related to finance research

than is generally recognized. Nevertheless, after providing this warning, the scope of the literature in other disciplines is beyond our task in undertaking this review. We note that this focus on one's own discipline does not occur only in finance. Cartwright (2006), in reviewing 30 years of management research on M&A, cites essentially none of the finance articles published up to that time.

We provide several caveats to our work. We do not analyze the quality of the research in the individual papers. The refereeing process of journals provides the assurance that these are credible, high-quality efforts. However, we also recognize that the rewards to publication and the reviewing process itself provides incentives for research that emphasizes significant results and copious robustness tests, not necessarily readability or straightforward reasoning. Spiegel (2012) notes in his Review of Financial Studies editorial, "Today articles appear in print after a referee is convinced that all other alternative explanations for its results have been ruled out. In reality no article can exclude every possible alternative, so this is basically an exercise in futility. The criterion for publication should be that once an article crosses some threshold it is good enough to publish." (P. 1331). He notes that articles have gotten longer, with more authors, and more citations and robustness checks, and that this does not always lead to desirable results. It is certain that some of the articles we review here have been subjected to extensive testing requirements that have not have added substantively to the analysis. In addition, it is certain that some articles with informative results are not published due to the inability of the authors to adequately satisfy referees about all possible interpretations.

In a similar argument, Campbell Harvey (2017) in his American Finance Association Presidential Address states, "Given the competition for top journal space, there is an incentive to produce 'significant' results. With the combination of unreported tests, lack of adjustment for

multiple tests, and direct and indirect p-hacking, many of the results being published will fail to hold up. In addition, there are basic issues with the interpretation of statistical significance. Increasing thresholds may be necessary, but still may not be sufficient: if the effect being studied is rare, even $t > 3$ will produce a large number of false positives." (p. 1). Andrews and Kasy (2017) argue that only articles where the authors find significant results can get published and that "such selective publication leads to biased estimators and distorted inference." (p. 1.) In the Journal of International Business Studies (Meyer, van Witteloostuijin and Beugelsdijk, 2017), the editors report similar concerns and discuss best practices "with respect to conducting, reporting, and discussing the results of quantitative hypothesis-testing research, and … develop guidelines for authors to enhance the rigor of their empirical work." (P. 1)

Two recent finance papers discuss the validity of published research in the context of the anomalies literature. While this is a different research area than M&A, the work confirms the concern that incentives to publish may lead to results that may not be generalizable or replicable. Harvey, Liu, and Zhu (2016) using multiple testing approaches find that there are significant weaknesses in the anomalies literature and state "most claimed research findings in financial economics are likely false" (p.5). Hou, Xue, and Zhang (2017) discuss the dangers of data mining and p-hacking. They claim that the "anomalies literature is infested with widespread p-hacking" (p. 1). They replicate the existing research in anomalies using value-weighted returns, minimizing the effects of microcap stocks which are close to 60% of the number of stocks but 3% of the value, according to Fama and French (2008). They also examine the strength of the observed results when they are held to a higher standard of significance. Their analysis suggests that the capital markets are more efficient than the anomalies literature suggests and that many of the previously reported anomalies becomes weaker or disappear in their testing.

As shown by Harvey et al. and Hou et al., the use of a specific dataset or time period for research analysis is a potential source of results that may not be generalizable. This has been found to be true in the M&A literature also. The set of firms analyzed, the time period included and decisions about methodological approaches have been shown to yield varying results. Netter, Stegemoller, and Wintoki (2011) using a large sample of M&A transactions find that some of the common results in the M&A literature (e.g., negative bidder returns or the existence of merger waves) are a function of the sample used. Analogous to the observations from Harvey et al. and Hou et al., they emphasize that empirical results are sensitive to whether tests are based on datasets of relatively large firms or whether small firms are included in the analysis. They suggest authors do a more detailed report on their sample and consider the replicability and implications of their results under various sample selection criteria. In particular, data screening decisions that emphasize large firms or that require that both the acquirer and target be public result in substantially smaller datasets to be analyzed and lead to questions about the generalizability of results. Liu and Mulherin (2017) confirm the importance of the time period studied and note that most takeover bidding now occurs behind the scenes prior to the public revelation that a target firm is in play. They also note several other important differences between the 1980s and the current market including that target firms themselves are now more likely to put themselves up for sale rather than await an unsolicited bidder. These fundamental changes in the takeover auction process between the 1980s and later decades confirm a lesson in Netter, Stegemoller and Wintoki (2011) that sample and time period are important in M&A research

In addition, research questions often focus on areas where there are datasets to help answer the questions and the recent increased availability of large data sets means that empirical

analysis has far outpaced our understanding of the fundamental economic reasoning of the findings. Thus, "statistically significant" correlations based on often ad-hoc reasoning are frequently published. And, of course, the quality of results is necessarily a function of the quality of the data. Whether using US or international data, there are significant questions about the accuracy and comparability of data.

In addition to questions raised by publication bias, p-hacking, and data concerns, the validity of research depends on the empirical techniques used. The Journal of Economic Perspectives (2017) recently published a special issue on concerns about econometric methodology. In the lead article, Athey and Imbens (2017, p.3) state, "The gold standard for drawing inferences about the effect of a policy is a randomized controlled experiment. However, in many cases, experiments remain difficult or impossible to implement, for financial, political, or ethical reasons, or because the population of interest is too small … Thus, a large share of the empirical work in economics about policy questions relies on observational data—that is, data where policies were determined in a way other than through random assignment. Drawing inferences about the causal effect of a policy from observational data is quite challenging."

An important methodological challenge that is increasingly discussed in finance research is the handling of endogeneity in analyses of corporate decision making. Endogeneity concerns are very important in studying the causes and effects of M&A transactions While many articles address the issue, the quality of the corrections are uneven. Roberts and Whited (2012) provide an excellent intuitive discussion of endogeneity issues, their type, their effects, and suggestions for dealing with them.

Roberts and Whited discuss three sources of endogeneity: omitted variables, simultaneity, and measurement error. Omitted variables occur when there is a variable that should be included

in the explanatory variables but it is not incorporated into the analysis, usually because it is unavailable (such as the ability of a CEO). Thus, the omitted variable impact appears in the error term. If the omitted variables are correlated with the included explanatory variables then inference in the equation breaks down due to biased coefficients of the explanatory variables. The simultaneity problem refers to when the dependent variable and one or more of the explanatory variables are jointly determined in equilibrium so it can be argued that the dependent variable causes the independent variable(s). This again causes biases in the estimated coefficients. The third source of endogeneity is measurement error in explanatory or dependent variables. This usually arises because researchers use proxies and any divergence between the true variable of interest and the proxy is measurement error. Measurement error in the dependent variable has problems similar to those of an omitted variable and can cause bias in the coefficients. For example, in examining the endogeneity problem, Wintoki, Linck and Netter (2012) show that there is significant predictable bias in estimating firm performance as a function of board size and independence. When their endogeneity correction is applied, the results of earlier studies showing a relation goes away.

Roberts and Whited (2012) suggest some fixes for some of these problems but in their conclusion, they are very guarded on the ability of empirical research to make causal arguments. They write, "statistical technique is rarely a substitute for good empirical design, high-quality data, and careful testing of empirical predictions against reality in a variety of settings." (p. 566-567.) We do not analyze the empirical techniques in the papers we review. However, finance research in a history of science discussion is a relative latecomer to consideration of endogeneity concerns.

We have indicated several issues that affect the quality of research. One check on the accuracy of existing research is replication studies. However, there are few rewards for replication work. American Economic Review Papers & Proceedings (2017) recently published 8 papers on replication. The general conclusion of the included papers is summed up in the title of Chang and Li's (2017) paper, "A Preanalysis Plan to Replicate Sixty Economics Research Papers That Worked Half of the Time." The failure to replicate was due to several factors and they summarize by providing a plan to make replication easier. However, the most important consideration for researchers seeking to publish their work on replication is whether journals value replication.

Thus, we must consider all of the individual results here with some skepticism. The challenges of developing theoretical arguments and appropriate hypotheses to be tested, the difficulties in identifying high-quality data and developing appropriate methodologies, and the incentives in the publication process all suggest that we not oversell any particular paper or its results. It is important that all research be accompanied by caveats that any empirical results are based on specific time periods, firms, methodologies, data availability and underlying assumptions. Researchers should also recognize that we do not know what would have happened to a firm that is taken over if the M&A event had not occurred. What we emphasize in our analysis, though, is that we learn from the aggregation of the research of many individuals. Milton Friedman wrote, "The sum of negligible effects need not be negligible." (Roberts (2014, p. 248 quoting Friedman)). Any one paper may not add much to our knowledge of M&A but in putting them all together, there is knowledge in the sum of the work. Fama and Litterman (2012) sum this up well in discussing Fama and French (1992), quoting Fama, "I didn't expect the 1992

paper to be published because there was nothing new in it. Every result existed in the literature. But just by putting the pieces together, we were able to break new ground." (pp. 17-18)

2. "Survey of the surveys" – historical evidence on mergers and acquisitions

Our discussion of what we know about M&A begins with a summary of the lessons obtained from previous review articles. We start with the classic review article by Jensen and Ruback (1983) which surveyed the new but burgeoning evidence on the causes and effects of M&A activity. The topics they addressed included the gains to target and bidder firms as well as the sources of any such gains. Summarizing more than a dozen event studies, Jensen and Ruback (1983) summarize the evidence to say that targets gain substantial premiums at takeover announcement. This was an important result; it is easy to forget that in the 1980s, target management and many lawmakers often argued that takeovers harmed target shareholders. Lobbyists such as the Business Roundtable spent extensive time at the Securities and Exchange Commission, the Justice Department and Congressional hearings trying to prevent or at least dramatically slow hostile takeovers. Related event study evidence suggested that bidders roughly broke even. The apparent wealth gains in M&A did not appear to come from increases in market power. However, in conclusion, Jensen and Ruback (1983) stated that the sources of gains in corporate takeovers is "elusive."

The importance of the Jensen and Ruback (1983) survey goes well beyond the specific information summarized in the paper. Indeed, the paper provides both a motivation and template for future surveys of research in corporate finance. The decision to focus analysis on M&A and the market for corporate control was the seed money to a major growth industry in research. Indeed, the timing of the paper anticipated the deal decade of the 1980s.

Jensen and Ruback (1983) provided to a large audience the framework with which to do M&A research. Jensen and Ruback (1983) focused their survey on papers that used the announcement date of takeover as the event date, rather than the completion date. For example, the cited paper by Bradley (1980, p. 357, footnote 12) reports that announcement dates of the tender offers in the sample were garnered from the Wall Street Journal Index. The increased data availability and empirical methodologies helped fuel the boom. This precision required for determining event dates for mergers and acquisitions continues to be a lesson for today's researcher.

Jensen and Ruback (1983) also identified measurement issues in takeover research that continue to be relevant to current analysis. Many of these entailed the measurement of bidder returns which seemed to be close to zero or negative, leading to questions of why bidders would make acquisitions. One recognized problem was that bidders would often announce merger programs, making the determination of a precise event date problematic. Another observed empirical phenomenon was the disconcerting evidence that long-run bidder returns declined after the completion of a merger. These measurement issues provided fodder for future research.

Of course, the information reported in Jensen and Ruback (1983) also shows that research on any topic proceeds incrementally. For example, Table 1 in the survey suggests that tender offers produce greater returns to target shareholders than do mergers. But subsequent research such as Huang and Walking (1987) finds that the tender offer – merger distinction likely masks a method of payment effect.

The Jensen and Ruback (1983) survey also left many issues unresolved. In particular, the evidence on the total gains to the takeover, i.e., the combined target and bidder returns, remained unresolved. This motivated the critique from Roll (1986) who argued that the evidence at the

time of the Jensen and Ruback (1983) survey was consistent with the hubris hypothesis that takeovers created no synergistic increase in value and were merely manifestations of overconfident bidders who provided a wealth transfer to target shareholders. It was not until the publication of Bradley, Desai and Kim (1988) that systematic evidence showed a significant and positive increase in the combined bidder and target returns. Note that earlier versions of Bradley, Desai and Kim (1988) had circulated since 1982 and the title page of the published paper indicates it was submitted in August 1984 and the final version was received in December 1987.

Only five years later, Jarrell, Brickley and Netter (1988) provided a new survey of the research on M&A. Why such a quick update? The answer is that the world had changed since 1981, the last year covered in the papers reviewed by Jensen and Ruback (1983). Antitrust relaxation, deregulation, and junk bond financing had been followed by a large increase in the acquisition of large firms. Such activity induced the invention of the poison pill in 1982, passage of state antitakeover laws, and important judicial decision tied to deals involving major U.S. corporations such as Unocal (1985) and Revlon (1986). In this heightened and cantankerous takeover environment, there was also heighted research on M&A transactions. Much of this research was centered at the Office of the Chief Economist of the U.S. Securities and Exchange Commission, reflecting the fact that the impact of corporate takeovers was a major policy issue in the United States. Many of the studies cited by Jarrell, Brickley and Netter (1988) are in working paper form, enabling an up-to-date presentation of the evidence from the 1980s deal decade.

Consistent with the framework of Jensen and Ruback (1983), the bulk of the analysis surveyed by Jarrell, Brickley and Netter (1988) comprises event studies. And similar to the inferences in Jensen and Ruback (1983), the papers on the 1980s reviewed by Jarrell, Brickley

and Netter (1988) report large gains to target shareholders. These gains are not offset by losses to bidder shareholders. As an extension of Jensen and Ruback's (1983) analysis of the sources of gains in takeovers, the evidence surveyed by Jarrell, Brickley and Netter (1988) indicates that the gains to targets do not come from other stakeholders such as bondholders or employees, suggesting increased efficiency as the source of the gains.

Critical in these studies is the use of event studies to examine security (mainly stock) price reactions to M&A announcements, frequently correlated with other firm, governance, or regulatory characteristics. In his overview of the efficient markets hypothesis, Nobel Prize winner Fama (1991, 1600) says, "Event studies are now an important part of finance, especially corporate finance." He noted that the importance of event study methodology comes from several factors including the observation that stock prices react quickly to new information due to low information and transaction costs, the availability of CRSP data and the development of computers that can handle the calculations. Event studies allow us to learn what investors think the impact of some event or news would be since investors are investing their real money in securities of the relevant firm.

Fama (1991, 1600-1601) also writes of the importance of the event study evidence in influencing regulatory policy: "Like financing decisions, corporate-control transactions have been examined in detail, largely through event studies. One result is that mergers and tender offers on average produce large gains for the stockholders of the target firms.… [P]roxy fights, … management buyouts and other control events are also wealth-enhancing for target stockholders. The political pressure to restrict the market for corporate control is strong, but my guess is that without the barrage of evidence that control transactions benefit stockholders, the pressure would be overwhelming."

The authors of this review have personal knowledge of Fama's point. All three of us worked at the Office of the Chief Economist at the SEC at some point in the 1980s. Poulsen was at the SEC in the early 1980s when antitakeover advocates argued strongly to the Commission that target shareholders lost wealth and takeovers must be curbed. Netter was asked to help with an amicus brief for *Basic v. Levinson* to the Supreme Court where some SEC lawyers wondered if there was evidence that target firm shareholders would want to know if their firm was in play before their selling shares. Mulherin worked on using financial economics techniques to estimate materiality and damage in securities fraud suits (discussed in Mitchell and Netter (1994)).

As the 1980s came to an end, the deal decade surveyed by Jarrell, Brickley and Netter (1988) quickly became an M&A wasteland. The early 1990s saw a large drop in M&A transactions. While often attributed to firm-specific devices such as poison pills and statewide antitakeover laws, an alternative story links the downturn in M&A to recessionary economic conditions and the collapse of the junk bond market. (See Comment and Schwert (1995) for a discussion.) Whatever the source of the M&A decline, research on M&A also waned.

In 2000, Mike Ryngaert edited a special edition of the Journal of Corporate Finance on M&A. Ryngaert's (2000) motivation to solicit new papers on M&A for the special edition was his concern that our knowledge on M&A in the year 2000 was wedded in a different era: "I have frequently found myself forced to cite results that were largely drawn from the 1980s and even 1970s when discussing the market for corporate control. This special edition is a modest step toward updating our empirical knowledge of this market." (p. 111) The special edition paper by Mulherin and Boone (2000) directly served Ryngaert's intent by documenting via event studies that for deals in the 1990s, targets continue to gain, bidders break even and the average combined

return is significantly positive. Ryngaert (2000) also noted a trend toward more research on internal governance and M&A as contracts such as golden parachutes saw growing use.

Netter, Poulsen, and Stegemoller (2009) summarize some of the changing focus in the corporate control literature in another Journal of Corporate Finance special issue on M&A. They note the increased focus in research at that time on the importance of insiders, institutions and other investors on value and performance of firms. The research in the special issue illustrated that ownership structure affects the performance of firms and voting on issues including M&A transactions. It also demonstrated the importance of distinguishing between ownership classes in analyzing M&A transactions. Netter et al. (2009) summarized this literature by noting that corporate governance had become an increasingly important part of corporate control. Much of the recent research has also focused on who owns the firm.

Several M&A texts also survey M&A research from the late 1980s and 1990s – see, for example, Bruner (2004) and Weston, Mitchell and Mulherin (2004). They note that evidence continued to confirm that target shareholders clearly gain and that bidders gain or lose slightly but total gains are positive. Later texts (e.g., Gaughan (2015) and De Pamphillis (2015)) report essentially the same basic results with later studies. The texts report that studies using accounting and survey data give conflicting evidence about post-merger profitability.

Jarrell et al. (1988) also review the evidence of the effects of defending against takeovers. The use of defensive devices increased significantly in the 1980s. Their review suggests that those defensive devices that are subject to shareholder voting approval are generally not harmful to shareholder wealth. However, defensive devices that do not require shareholder approval on average reduce shareholder wealth. The evidence on shareholder defensive devices developed after the Jarrell et al. review, summarized by DePamphilis (2015) and Gaughan (2015), is

similar. On average, they have a small negative effect on shareholder wealth but there are cross-sectional differences. An important result is that defensive devices put in place early in a firm's development or in an IPO can have a positive effect on firm value, suggesting that the use of antitakeover provisions can benefit firms that need protection in order to invest in long-run projects.

Mulherin (2004) surveying the evidence on M&A makes several observations. First, the empirical and theoretical evidence indicates that broad economic forces – e.g., technology and deregulation – drive M&A activity in a broad sense and especially by industry. But these factors change over time. In discussing why target shareholders might disproportionately share in the gains of merger transactions, Mulherin (2004) notes that there are potentially managerial motives (hubris) explanations or the competitiveness of the auction process in the market for corporate control that leads to close-to-zero or negative wealth gains to bidders.

In his edited volume of collected published research papers, Mulherin (2012) provides a review of much of the literature up to that time. Mulherin (2012) divides his collected volume into five areas --sources of gains from mergers, takeovers and managerial discipline, merger waves, takeovers as auctions, and measuring bidder returns. These themes are common to much of the research we review here. Mulherin (2012) continues the discussion on the evidence concerning gains from takeovers. He notes works using event study techniques to measure shareholder gains from M&A (such Bradley, Desai, and Kim (1988), Mulherin and Boone (2000), Andrade, Mitchell, and Stafford (2001)) find shareholder wealth gains to the combining firms. However, the studies do not report the source of the gains – efficiencies, monopoly power, or redistributions from other stakeholders. As Mulherin (2012) notes, since event studies only capture the unexpected portion of an event, in the case of bidders who often make multiple

acquisitions the announcement of one deal may convey limited information. Bidder returns are difficult to interpret because the information revealed at a bid can be about many things including the internal growth prospects of the bidder and target, the method of payment, as well as the specifics of the deal. In addition, on average the bidder is much larger than the target limiting the relative importance and thus the stock price effect on the bidder.

Andrade, Mitchell and Stafford (2001) studied the evidence of mergers in the 1990s and agree that the evidence supports the premise that stock market gains reflect real efficiencies. But they report several challenges to this interpretation. For example, there is evidence of long run negative drift in returns after M&A, but long-run returns are notoriously difficult to measure. There is also little evidence on the source of the gains since takeovers have different motivations, and the accounting data are difficult to interpret. Andrade et al. (2001) report on evidence from plant level data suggesting plant productivity improvements after M&A but not firm improvements. They also note that in-depth case studies do not provide significant evidence on how M&A creates value. Finally, they note the evidence seems to suggest almost all the gains to takeovers go to target shareholders, although as with Bruner (2004), Andrade et al. (2001) note the gains to bidders are similar to those at the time of announcements of other major investments. Perhaps most importantly, since bidders frequently make bids for multiple firms, the announcement of a bid for a second or later company may contain little information. For example, Fuller, Netter, and Stegemoller (2002) in examining the returns to firms that make multiple bids show that there is a smaller market reaction to later bids. Becher (2009) and Cai, Song, and, Walkling (2011) provide similar evidence.

Mulherin's (2012) edited volume includes several novel analyses of bidder returns that demonstrate time-series and cross-sectional patterns in bidder returns. Moeller, Schlingemann,

and Stulz (2005) find that acquiring firm shareholders lost on average 1.6 cents per dollar spent in acquisitions in the 1980s for a total loss of $7 billion The pattern varies by years and size of bidder. Over the full sample period of 1980 to 2001 bidders on average gain but in the sub-period of 1998 to 2001, bidders have negative returns. Boone and Mulherin (2008) make use of information on the entire takeover auction process to test for evidence of the winner's curse as suggested by Roll's (1986) hubris model. They find little or no support for the winner's curse, as both announcement returns and post-merger operating performance are no different for winning bidders in an auction vis-à-vis bidders that engage in a one-on-one negotiation with the target. Mitchell, Pulvino and Stafford (2004) provide a distinctive inquiry on the longstanding result that stock financed mergers are associated with lower and negative bidder returns as compared to cash financed mergers. Making use of their detailed knowledge of merger arbitrage, Mitchell, Pulvino and Stafford (2004) note two related institutional facts: (1) a stock financed merger can be for either a fixed stock amount or a floating stock amount, and (2) merger arbitrage that shorts the bidder occurs on the announcement date for fixed stock mergers and at a later pricing date for floating stock mergers. Mitchell, Pulvino and Stafford (2004) show that the negative returns to bidders at merger announcement only occurs for the fixed stock deals, suggesting that some or all of the negative returns to bidders stems from the price pressure from merger arbitrage rather than the conventional view of the negative information signals from stock financing.

There are also methodological issues, including empirical estimation techniques and effects of sample selection, to be considered in interpreting event study results. For example, Mulherin (2012) notes that Mitchell and Stafford (2000) show that there are issues to address in estimating the effects of mergers on long-run returns. Mitchell and Stafford (2000) show that previous research assumed independence of multiyear abnormal returns for merging firms, but to

the extent there are merger waves abnormal returns are positively cross-correlated and measuring with buy and hold returns produces biased results. Mitchell and Stafford (2000) use calendar-time portfolio methodology that controls for dependence of abnormal returns and find no evidence of negative long-term performance after mergers. Fama (1991) argues that in a short run event study with a major event, the method of estimation does not matter much (for example the target stock-price reaction to an unexpected bid). However, the meaning of bidder returns even in the short run is more problematic due to the many alternative types of information revealed (or not revealed) at the bid announcement.

Mulherin (2012) reports on studies that find the sources of gains based on empirical techniques other than event studies including analyst's forecasts, industry studies, and plant level data. Devos, Kadapakkam and Krishnamurthy (2009) use analysts' forecasts from the last report by the stand alone firm and the forecast for the new firm to argue that the gains come from operating synergies, and a small amount from tax savings, and not from market power. Fee and Thomas (2004) find positive stock returns to rival firms on merger announcements and no effects on the stock prices of customer firms, inconsistent with market power creating the gains. Both the price and event study evidence is consistent with increased efficiencies, not collusion, as a source of stock price gains at the time of M&A. Maksimovic, Phillips, and Prabhala (2011) use Census plant level data for deals from 1981-2000 and find productivity gains after M&A are concentrated in retained plants, not divested plants, suggesting M&A and restructuring create gains. Hoberg and Phillips (2010) use text analysis to classify the similarity of merger partners. They find similar firms are more likely to merge and gains are highest when similar firms merge and when a target increases the acquirer's product differentiation, suggesting synergy as a source of gains.

Mulherin (2012) argues another approach to finding the sources of gains in M&A is to examine why they occur. This leads to analysis of the empirical evidence on merger waves. A seminal article studying causes of mergers, Mitchell and Mulherin (1996), finds that mergers cluster at the industry level due to technological changes and deregulation. Harford (2005) extends this evidence to 2000 and finds industry mergers cluster by economic, regulatory and technological change, and overall M&A activity is also related to macro shocks. Rhodes-Kropf, Robinson, and Viswanthan (2005) using theories that valuation errors affect merger activity, and a model of valuation errors, and find that, in merger waves, misvaluation affects the method of payment, what firms buy other firms, and the overall level of M&A activity. Other research in the volume argues M&A activity is related to cash flow uncertainty, which is more important for firms with higher asset specificity (Garfinkel and Hankins (2011)). However, Netter, Stegemoller, and Wintoki (2011) using a large sample of public and private firms find mergers cluster in industries with publicly-traded firms and not as much with private firms. Using a different approach, Maksimovic, Phillips, and Yang (2013) find similar results. We discuss the recent work on merger waves in more detail later.

Another set of research surveyed by Eckbo (2009) and Mulherin (2004, 2012) concentrates on the bidding process in acquisitions. The analysis involves the study of strategies by the initial bidder and other bidders who may later enter the contest and the target that affect the success of a deal, the premium paid and the form of the change in control. Eckbo (2009) summarizes the evidence the takeover process and strategies and premiums and identifies strategies that might be used (p. 174) including, "post-offer dilution of minority shareholders, use of state-contingent payment methods, markup pricing in response to new information, toeholds, termination agreements, and legal maneuvering when the target is hostile." Some of the evidence

he surveys includes findings that bidders in single bid contests offer higher average initial premiums than in multi-bid contests

In his survey (which was included in the 2009 Journal of Corporate Finance Special issue discussed earlier), Eckbo (2009) discusses Betton, Eckbo, and Thorburn (2009) who examine the evidence on initial toehold positions holdings of bidders. They report that toeholds fell after the 1980s as the rise in takeover defenses became more significant. A toehold can be a disadvantage to a bidder because targets may be reluctant to negotiate with a bidder who has a toehold, the bidder may be viewed as hostile. In contrast, in a friendly negotiation, the bidder can examine the books of the target and sign a termination agreement. Eckbo (2009) reports the evidence is consistent with toeholds being used when they are worth having – toeholds, when they occur, are large (more than 10% of target stock) and occur in hostile bids. Another strategic behavior in takeovers reviewed by Eckbo (2009) is the choice of payment method. The method depends on tax considerations, information asymmetries, capital structure factors, control issues, and behavioral issues. The review tends to find the importance of the various factors in the choice of payment method reflects efficient selection of payment method. Overall, Eckbo (2009) concludes that bidders act rationally and strategically.

Mulherin (2012) also considers the question of strategic behavior by bidders and the impact of the number of bidders in a transaction. A basic view is that the more bidders for a target, the greater the price that will be paid. This is shown in a model by Bulow and Klemperer (1996) where targets always do better in auctions than in negotiations with one bidder, suggesting that agency costs impact the decision of targets to refrain from an auction. But using an auction has costs to the target as shown by Hansen (2001) because proprietary information can be revealed to bidders in an auction. Boone and Mulherin (2007b) provide evidence in

support of the presence of information costs in the takeover bidding process. Povel and Singh (2006) model the case where bidders are not equally well informed about the target and the less well informed bidders are most concerned about the winner's curse. In such cases, the target may engage in a sequential process to obtain the highest price where the most informed bidder is first offered an exclusive deal and if they refuse the target moves to the next most informed bidder and so on. In the Povel and Singh (2006) model, termination fees and other deal protection contracts can serve to induce competition during the takeover bidding process, which is consistent with empirical findings in Boone and Mulherin (2007a).

Eckbo (2014) in a recent wide ranging survey reviews several areas. He analyzes M&A through the approach of industrial organization research and reviews who buys who on the supply chain and the implications for the existence of takeovers. There is evidence that there are plant efficiency gains in takeovers and increased innovation. Eckbo (2014) also provides more detail on the bidding process and auctions.

The final review article we discuss covers the literature on antitakeover provisions and shareholder wealth. Straska and Waller (2014) classify and report on the studies of antitakeover provisions. They conclude, "Despite the considerable amount of time and attention devoted to examining how antitakeover provisions affect shareholders, the net effects of these provisions on shareholder wealth remain uncertain." (p. 950) They review short-run event studies which examine the stock price reaction to the adoption or repeal of antitakeover devices. They also review the evidence on management policies and performance changes after changes in antitakeover provisions. Finally, they report on studies that follow the relation between antitakeover provisions and firm characteristics, the long-term relation between antitakeover devices and stock returns, long-term performance, and firm policies. Overall, Straska and Waller

(2014) conclude by noting that in general antitakeover provisions harm shareholders but there are exceptions where antitakeover provisions can be beneficial by increasing bargaining power.

3. Research on mergers and acquisitions since 2011

In this review, our approach is to classify the covered articles by their main research question. Obviously, many articles cover multiple areas creating some difficulty in classifications. Nevertheless, we assign the article to the area that we consider to best reflect its primary contributions to our understanding of M&A. Our classification scheme resulted from our analysis of the works published in leading journals since 2011. We had originally planned on using a scheme based on Jensen's (1993) classification of the 4 control mechanisms on a corporation including: 1) capital markets, 2) legal, political, regulatory system, 3) product and factor markets, 4) internal control system headed by board of directors and adding a fifth that would note the impact of media on a firm. However, we found that published works did not fall easily into these categories or could be included in more than one. Thus, we adapted our classifications to better match those of the literature. Note, however, that the absence of significant research on, for example, the impact of regulatory systems or the importance of factor markets, may suggest avenues for future research.

We follow what could be called a "history of science" approach to research in the area of mergers and acquisitions. What have people studied and what did they find? The choice of research topics is guided not only by theory but by data availability, what is of interest to referees and journal editors, and exogenous shocks to the takeover market that created new questions to be analyzed.

The literature on mergers and acquisitions is extensive. Our representative sample of current research provides insights into the many questions currently being investigated about

M&A and also provides guidance on topics for future research. Many of the articles would fit into more than one of the categories we have identified. We acknowledge that the authors may disagree with our classification scheme or our brief summary of their work. Nevertheless, our classification scheme and summaries provide a broad guideline to recent topics.

The classifications are:

3.1 What attributes of acquiring firms, their CEOs and their boards are associated with better acquisitions?

3.2 Do financial advisors or institutional investors know more? The role of experienced participants**,**

3.3 Characteristics of the target and their impact on acquirer wealth changes,

3.4 Are acquiring firms characterized by overvaluation or overconfidence?,

3.5 Explaining target wealth effects and joint returns to targets and acquirers,

3.6 Are wealth effects disguised by other information or measured incorrectly?,

3.7 The importance of networking and relationships in acquisitions,

3.8 Impact of financial constraints and capital structure on M&A decisions,

3.9 IPOs and deal structures and their impact on M&A,

3.10. Antitakeover strategies**,**

3.11 What happens when firms merge? Evidence on market competitiveness, restructuring, synergies and misevaluation,

3.12 Merger waves and macro conditions affecting mergers**,** and

3.13 Research on international and cross-border M&A

3.1 What attributes of acquiring firms, their CEOs and their boards are associated with better acquisitions?

Much of the current research looks at firm characteristics and how those characteristics are associated with acquiring firm wealth effects at the announcement of takeover bids. The papers in this section generally control for many of the widely-recognized factors influencing acquiring firm shareholder wealth and then consider the impact of the additional acquiring firm-specific characteristic.

Golubov, Yawson and Zhang (2015) step into the debate about the source of acquirer returns by first noting that most of the suggested explanations, ranging from some of the earliest explanations such as relative size, cash vs. stock offers, and characteristics of the bid such whether it is a hostile bid or a tender offer to more recent explanations such as the Tobin's Q of the bidder are relatively unsuccessful at explaining significant amounts of total acquirer returns, with explanatory regressions having R2s in the range of 5% or 6%. To the benchmark OLS regressions of acquirer cumulative abnormal returns, Golubov et al. (2015) add acquirer fixed effects. They find that firm "fixed effects *alone* explain almost as much or even more (depending on the sample) of the variation in acquirer returns than many of the important variables identified by prior literature *combined*." (p. 318, emphasis provided by authors.) They also report that the firm fixed effect is persistent through time and seems to be firm- rather than CEO-dependent. Thus, Golubov et al. (2015) suggest that the firms have attributes that either allow them to especially benefit from synergies with their targets or they have special skills at valuing potential targets.

Jaffe, Pedersen and Voetmann (2013) refine this argument and suggest that it is not only the firm but also the identity of the CEO that determines persistence in the performance of

corporate acquirers. They report that if an acquirer is successful in a deal and keeps the same CEO for its next acquisition, the average return is significantly greater than the return for a firm that had a bad acquisition and kept that CEO. They do not find persistence in announcement returns when the CEO of the firm changes. Jaffe et al. (2013) argue that these results indicate that acquisition skill sets in firms are more closely related to the CEO of the firm rather than the firm characteristics overall.

Harford and Schonlau (2013) further pursue an understanding of the CEOs role in mergers and acquisitions. They investigate how the director labor market reacts to the outcome of CEO acquisition activity. On average, they find that CEOs are viewed more positively as potential board members the more acquisitions they undertake, regardless of the success of those transactions. Thus, the director market seems to value experience in making acquisitions over the relative success of those transactions, emphasizing the advisory strengths rather than monitoring role of potential directors.

Harford, Humphery-Jenner and Powell (2012) look at acquirer returns from the perspective of explaining why "entrenched" managers make value-decreasing acquisitions. Thus, rather looking at firms that have special skills at identifying good targets, they are looking at those managers who continue to make bad decisions. Defining entrenched as having 10 or more of the antitakeover provisions in the GIM index (Gompers, Ishii, and Metrick, 2003) they confirm that acquirer returns are lower for these firms. Harford et al. conclude that an important reason for these lower returns is the attempt of managers to maintain their entrenched positions. As such, they avoid takeovers of private companies (Fuller, Netter, and Stegemoller (2002), e.g., report private acquisitions have more positive acquirer returns) and stock takeovers of companies with large blockholders. Acquisitions of companies with these characteristics, they argue, would

create voting blocks that could diminish managerial entrenchment. They also find that entrenched managers are more likely to select firms with which they have lower synergies.

Baker, Dutta, Saadi and Zhu (2012a) study CEO abilities, motives and traits in a sample of Canadian firms. Baker et al. (2012a) relate previous firm operating performance, as a measure of CEO ability, and find that it is negatively related to market perception of acquisitions by the firm. Thus, the authors suggest that this finding could be the result of either empire building or CEO overconfidence and further tests lead them to emphasize the importance of empire building by CEOs. They also report evidence that the presence of insider directors helps to mitigate the negative perception of acquisitions made by good performers.

Recent papers have also looked at the role of specific characteristics of directors or CEOs on merger and acquisition activity. For example, Levi, Li and Zhang (2014) consider the impact of director gender on M&A activity. Their results suggest that female directors are less likely to overstate merger gains and, as such, make fewer acquisitions and pay lower premiums. They argue that these results further support the importance of board diversity in acquisition decisions and other corporate policies. In a similar study looking at diversity in director characteristics, Miletkov, Poulsen, and Wintoki (2017) show that non-US firms that add a foreign director to their board benefit if the director comes from a country with higher governance standards (i.e., the firm "imports" better governance) and that firms experience more positive wealth effects at acquisition announcements when they have directors on their board from countries with higher governance standards.

Phan (2014) looks at CEO incentives in mergers and acquisitions by contrasting CEOs with high inside debt holdings with those who have low inside debt holdings. Inside debt, generally defined as debt-like compensation in the form of pension benefits or deferred

compensation, can be a significant portion of an executive's compensation package. Phan (2014) notes that if a CEO has relatively high holdings of inside debt, the CEO's incentives may be more closely aligned with bondholders than with stockholders and this will accordingly lessen the incentives of the CEO to invest in risky projects. Phan's (2014) research supports this premise – firms with CEOs with relatively high inside debt holdings have a lower propensity to engage in M&A. If these firms do engage in M&A, the transactions are more likely to result in industry diversification, will use less cash as the method of payment, will involve less leverage and will result in less firm risks post-merger. Since, on the other hand, less inside debt may result in CEO incentives to enter into transactions that transfer wealth from bondholders to stockholders, Phan (2014) argues that firms can use executive compensation schemes to design optimal incentive contracts for the firm.

Elkinawy and Offenberg (2013) also consider the executive compensation packages of target CEOs. Specifically, they consider the impact of accelerated vesting of CEO equity awards, whereby restricted stock and stock options vest immediately upon the closing of the acquisition, on takeover outcomes. The authors report that takeover premiums are significantly larger when accelerated vesting occurs, consistent with target management benefiting immediately from the takeover premium and thus willing to negotiate a better deal for all stockholders.

Fich, Tran and Walkling (2013) address the role of golden parachutes in facilitating takeover completion. While parachutes are controversial in that they seem to reward failing or failed CEOs, they alleviate the moral hazard problem of managers attempting to prevent takeovers to protect their future compensation stream. The authors show that more significant parachutes result in higher takeover completion. They also note that more significant parachutes are associated with lower takeover premiums. Overall, however, their results suggest that

shareholders are better off when their CEO has a parachute since, without the parachute, a merger is less likely to occur, resulting in no takeover premium to shareholders.

Aktas, de Bodt, Bollaert and Roll (2016) suggest that CEO narcissism can also affect the takeover process and argue that psychological characteristics of both acquirer and target CEOs are important considerations in M&A. The authors report that narcissistic CEOs are more likely to take actions that reflect their need to reinforce their ego. They also find narcissistic CEO actions to be consistent with the CEOs being manipulative and lacking empathy. Some of the commonalities they report include transactions that are negotiated more quickly, probability of deal completion negatively related to narcissistic CEOs, and acquirer CARs negatively related to target CEO narcissism.

Jenter and Lewellen (2015) consider the impact of target CEOs who are close to retirement on the probability of receiving a successful takeover bid. They find that the likelihood of receiving a successful bid significantly increases when target CEOs are close to age 65. However, premiums are similar in successful bids regardless of the CEOs age, suggesting that CEOs do not sell their companies "cheap" when they want to retire. While they cannot specifically identify costs to shareholders from the preference for CEOs to sell their firms as they approach 65, the authors note the potential for self-serving behavior to affect the probability of when an offer is received.

Elnahas and Kim (2017) look at political contributions by firm CEOs to see if political ideology impacts M&A decisions. They report that CEOs that contribute to the Republican party are less likely to engage in M&A activities. If they undertake acquisitions, the transactions are more likely to be characterized by the use cash payments, to be public firms and to be from the

same industry. Thus, Republican CEOs seem to prefer transactions with less information asymmetry.

Ismail (2011) compares premiums paid in acquisition transactions to management's disclosure of their estimate of the value of synergies related to the deal. He finds no relation between the two and suggests that the synergy estimate may be designed to encourage shareholders to endorse the deal. He documents, however, that overpayment by managers is consistent with acquiring firms overpaying when they are low growth firms and when the target is larger, more profitable and has higher growth potential.

3.2 Do financial advisors or institutional investors know more? The role of experienced participants.

The M&A literature also considers whether the experiences of financial advisors, investment bankers, institutional investors, or VC or PE advisors bring special skills in assisting acquirers to make wealth-increasing decisions in their transactions. Golubov, Petmezas and Travlos (2012) look at the impact of the choice of outside financial advisors in M&A transactions. They find that using advisors from top-tier investment banks is associated with higher returns to bidders in acquisitions. However, this is true only for acquisitions of public companies. The authors suggest that advisors may have special reputational exposure and skill sets for this category of acquisition that does not translate well for private acquisitions. These results help explain why previous studies were unsuccessful at identifying wealth effects related to advisor identity. By refining the sample to look at acquisitions where expert advice is most beneficial, Golubov et al. (2012) are able to better explain the premiums paid for top-tier advice.

Bao and Edmans (2011) also find that the selection of the investment banker used for an M&A transaction can materially affect the acquirer return. Using fixed-effect analysis, the report

that for investment banks that advised at least 10 deals, the difference in deal returns between the 25th percentile and 75th percentile was a significant 1.26%.

Huang, Jiang, Lie and Yang (2014) show that firms that have investment bankers on their boards of directors (approximately 25% of their sample) are more likely to make acquisitions than firms that do not have investment bankers, and that those acquisitions are associated with higher announcement returns for the acquiring firms. In particular, they find that acquiring firms pay lower premiums and advisory fees and the long-run stock price performance of the acquirer is better than those acquiring firms without investment banker directors. These results are stronger when the target firm is relatively large as compared to the acquiring firm.

Celikyurt, Sevilir and Shivdasani (2014) report that the presence of venture capital directors on the board is strongly associated with greater innovation activity in mature firms, including more R&D investments and more patents obtained by the firm. Celikyurt et al. (2014) extend this analysis to look at acquisitions by these firms. They compare announcement returns for M&A activity before and after firms appoint directors with VC backgrounds. They also find that firms benefit more at the time of the transaction announcement after they have appointed a VC director.

Acharya, Gottschalg, Hahn and Kehoe (2013) focus their analysis on private equity acquisitions, using a data set from 37 large, mature private equity houses in Western Europe. On average, they report that the returns are positive for these acquisitions and that the expertise that the private equity firms bring to the acquisitions are associated with better operating performance in the portfolio companies. They also show that the backgrounds of the private equity partners are associated with the success of the acquisitions. For example, partners with operational experiences are associated with more successful strategic or "organic" deals while partners with

accounting or banking backgrounds are associated with more successful financial deals. His results again emphasize the importance of the directors or partners closely associated with the deal.

Bodnaruk and Rossi (2016) suggest that financial conglomerates that have both equity and bond holdings – i.e., "dual holders" – in target companies may have differing incentives when it comes to deal decisions than if they were simply equity holders. For example, they may be willing to accept lower equity premiums or may want to see the deal completed more quickly if their bonds also appreciated. They find that dual ownership is fairly widespread and that equity premiums are lower for deals with larger target dual holder equity ownership. This relation is especially true when the takeover bid seems to especially benefit bond holders. They also find greater bond appreciation around M&A deals that have larger dual holdings and that the relation between equity and bond appreciation is negative in deals with large dual holdings. They do not find the latter relation for M&A deals without large dual holdings. The research of Bodnaruk and Rossi (2016) adds further evidence to the recognition that financial participants in the market can have an important and differential impact on M&A transactions.

Private equity funds, generally identified as financial buyers, may look for different qualities in target firms or have special abilities in valuing specific firm attributes as opposed to corporate, or strategic, buyers. Dittmar, Li and Nain (2012) suggest that PE funds are skilled at identifying targets that have high potential for cost cuts and revenue growth while corporate acquirers are more likely to look for operational synergies with a target. They compare corporate acquirer returns of strategic buyers in cases where financial buyers also bid on the firm as opposed to those situations where there was no financial buyer competition for the target. They report that strategic buyers experience a more positive announcement return when their bid

follows the bid of a financial bidder as opposed to if their bid follows that of another corporate buyer. Thus, they suggest that financial buyers are able to identify specific valuation opportunities that corporate buyers might be less skilled at identifying.

3.3 Characteristics of the target and their impact on acquirer wealth changes

Rather than looking at the skills of the board of directors of the acquirer, Masulis and Nahata (2011) evaluate the importance of the characteristics of the target board. In particular, focusing on acquisitions of private firms, they show that acquirers of VC-backed private firms realize a higher average announcement return than acquirers of non-VC-backed private firms. While a reasonable explanation for this finding might be that VCs help to certify the value of the private firm and thus reduce the uncertainty in the transaction, Masulis and Nahata (2011) do not find support for this hypothesis. Rather they suggest that VCs may have conflicts of interest with respect to their holdings in the company. For example, the preference of the VC may be for exit from the investment due to its fund being close to its liquidation date or the VC may have financial connections to the acquirer. Overall, their findings emphasize the importance of conflicts of interest across investors.

Offenberg, Straska and Waller (2014) consider what happens to firms that make bad takeovers. Following the research of Mitchell and Lehn (1990) on whether "bad bidders make good targets," they study shareholder wealth impacts when firms that have made bad acquisitions are taken over by other firms. They find that the target shareholders have positive returns at the announcement of the takeover and the premium is positively related to the previous losses from acquisitions. In contrast, acquirer shareholders experience a negative announcement return, which is more negative the greater the previous losses of the target. Offenberg et al. (2014) report that the overall wealth effect for the target and acquirer is insignificantly different from

zero. Thus, these results suggest that removing target leadership does not necessarily reverse the previous bad outcomes of the target's acquisition strategy and that any gains to the target shareholders represent losses to the acquirers.

Schneider and Spalt (2017) report that riskier firms are more likely to be taken over and that acquirer returns are negatively related to level of risk in the target. These riskier targets also have lower post-acquisition returns and their evidence suggests that acquiring firm CEOs may have a preference for riskier targets, as measured with proxies for "gambling propensity."

Rather than focusing on CEO preference for risk, Kruger, Landier and Thesmar (2015) suggest that the acquiring firm incorrectly values the target due to the "WACC fallacy." They suggest that acquiring firms may value their potential acquisitions using their firm-wide measure of risk, as captured in the firm's WACC. However, if the target firm is riskier than the firm's current portfolio of assets, the target will be overvalued to the extent that acquirer ignores the differing level of risk. In their empirical investigation, they compare acquirer returns to the difference in cost of capital between the two industries (if private acquisitions) or firms (if there is publicly available firm-level data). They find that acquirer returns are more negative when the target has a higher level of risk than the acquirer.

The difference in announcement effects between private and public targets has been long identified and many papers have substantiated (e.g., Fuller, Netter, and Stegemoller, 2002) and suggested explanations for this differential. Jaffe, Jindra, Pedersen and Voetmann (2015) compare acquirer returns in the acquisition of subsidiary targets versus public targets. In noting the similarities between private and subsidiary targets, they focus on information such as operating performance, governance structure, and ownership structure available for subsidiaries that would not be available for private targets. Jaffe et al. (2015) directly compare the

characteristics of subsidiaries versus public targets to test several of the hypotheses that have been suggested for the difference in return. In short, they are not able to confirm any of these hypotheses. Thus, they argue, the puzzle remains on why acquisitions of private firms should benefit acquirer shareholders more than acquisitions of public companies.

Related to the role of market characteristics of the acquirers and targets, Roosenboom, Schlingemann and Vasconcelos (2014) investigate how stock liquidity of the acquirer might influence the role of institutional investors in monitoring firm behavior. They relate this to the differing wealth effects found for private versus public targets. Their analysis focuses on how liquidity influences the ability of institutional investors to exit their positions and thus be protected from negative firm actions. Roosenboom et al. (2014) report that acquirers with lower stock liquidity have greater wealth increases at the announcement of acquisitions of private targets, suggesting that the presence of institutional investors might improve the monitoring of these transactions. However, they do not find the same result for public targets. They also report that, for private targets, acquirers with lower stock liquidity are more likely to withdraw takeover bids associated with negative acquirer returns and CEO turnover is higher following poor acquisitions.

Cocco and Volpin (2013) author another paper that considers how firm characteristics affect the probability of being the target of a takeover. Using UK data, they show that firms that sponsor a defined-benefit pension plan are less likely to be the target of a takeover bid and, if a bid occurs, are less likely to be acquired. They suggest that the uncertain valuation of the pension liability discourages potential bidders. Lending support to this finding is the fact that pension-sponsoring firms are more likely to use cash in their acquisition attempts rather than relying on

stock with uncertain valuation. Their results emphasize the importance of information asymmetries in M&A activities.

3.4 Are acquiring firms characterized by overvaluation or overconfidence?

In this section, we include papers that consider overvaluation of acquiring firm stock or actions taken by acquiring firms that seem to suggest overconfidence on the part of the decision makers. The papers are related in the sense that they reflect acquisition decisions being made based on inaccurate measures of the acquiring firms' potential skill at creating wealth-increasing transactions.

Researchers, notably Shleifer and Vishny (2003), suggest that firms will use overvalued stock for acquisitions of relatively less overvalued firms and thereby increase shareholder value. Fu, Lin and Officer (2013) consider whether this use of overvalued stock does, in fact, benefit shareholders. Overall, their results do not support shareholder gains. They report that overvalued acquirers frequently overpay for targets and that those acquisitions do not result in synergies that would benefit the firm. Overall, they find substantial declines in the value of the acquirer's stock, both in the bid period and in the longer run. Fu et al. (2013) suggest that acquirer CEOs may be undertaking these acquisitions due to governance or entrenchment problems manifested in greater compensation to the CEOs.

Akbulut (2013) also studies the effects of overvalued equity on mergers and acquisitions and its impact on shareholder wealth. He introduces an alternative way to identify overvaluation based on managerial insider trades rather than accounting valuation methods. Using this valuation method, he then examines whether acquisitions made using overvalued stock benefit acquirer shareholders. Overall, Akbulut's (2013) findings suggest that acquiring firm shareholders are significantly hurt by the firm's acquisition activities. When managers perceive

that shares are overvalued, according to Akbulut's (2013) measure, they are more likely to attempt stock acquisitions and the abnormal returns at the announcement are negative. In addition, the long-run performance of the firm is significantly negative relative to other overvalued firms that do not undertake acquisitions.

Ahern and Sosyura (2014) present a related argument with respect to overvaluation of acquirers. However, they suggest that acquirers might deliberately attempt to increase their stock price during the negotiation process for a merger. They report that acquirers using floating exchange ratios in stock mergers release substantially more news stories in the period between the start of merger negotiations and the merger announcement and find that these stories are associated with stock price increases in the acquirer. Thus, at announcement of the deal, they argue that the significant stock price decline reflects an appropriate discounting of the previously released news.

He, Liu, Netter and Shu (2017) also examine whether acquirers attempt to increase their stock price before a stock merger announcement. In integrating accounting and finance literature, they suggest that acquirers will use expectation management, a well-known characteristic studied in the accounting literature, to cause larger earnings surprises and thus increase stock prices. Managers will then undertake a stock acquisition, saving on acquisition costs due to the higher stock price. They do not find similar expectations management by firms that later make cash bids.

Kolasinski and Li (2013) measure CEO overconfidence (rather than overvaluation) in a manner similar to Akbulut (2013), relying on insider trading data. They suggest that CEOs who purchase their own stock, followed by a negative abnormal return in the stock over the next 180 days, were overconfident about the valuation of the stock at the time of the purchase. They then

evaluate the value of strong independent boards in monitoring overconfident CEOs and whether once-overconfident CEOs who have experienced negative returns to their holdings, are more restrained in their acquisition activities. They show that independent boards are successful at controlling overconfident CEOs and that the once-overconfident CEOs do become substantially less acquisitive after their personal wealth losses.

Rather than looking at sentiment regarding an individual stock and how it might affect merger returns, Danbolt, Siganos and Vagenas-Nanos (2015) look at the impact of overall market sentiment on bidder announcement return. Using the Facebook "Gross National Happiness Index" to identify sentiment in 17 international markets, the authors find that acquirers experience a significantly greater cumulative abnormal return in the 4-day period around a merger announcement when the Happiness Index is relatively high.

3.5 Explaining target wealth effects and joint returns to targets and acquirers

In reviewing recent publications, we find that most of the wealth effect papers have focused on attempting to explain the close-to-zero or negative returns earned by acquiring firms. The puzzle that has been focused on has been why do acquiring firms make so many acquisitions when the outcome does not seem to be necessarily good for shareholders. However, in this section we review papers that discuss either target wealth effects and their determinants or joint returns to targets and acquirers.

Malmendier, Opp and Saidi (2016) find that revaluation of target firms after failed acquisition attempts varies with whether the acquirer offered cash or stock for the firm. In studying almost 30 years of transactions, they find that targets of unsuccessful cash offers trade at a 15% premium relative to their pre-announcement price level, while targets of stock offers experience no increase in value after the failed bids. They suggest that this differential reflects

information about the value of the acquirer and adds to the literature that suggests that significant information effects may result from takeover activity.

Dimopoulos and Sacchetto (2014) develop and test a theoretical model that attempts to quantify the role of preemptive bidding versus target resistance in the determination of premiums paid to targets. They note that 86% of the takeovers from 1988 through 2006 were single bidder contests and premiums averaged more than 50%. Why, they ask, would premiums be so high in the absence of other bidders? They model two possible explanations – are bidders making high preemptive bids to discourage competing bids or are they paying significant premiums to discourage target resistance. Empirical tests plus simulation results suggest that takeover premiums are generally related to the ability of the target to resist a takeover rather than preemptive bidding.

In a related paper, Ahern (2012) also looks at factors that affect the target's ability to affect the premium paid in a proposed takeover. He refines the analysis of acquirer vs. target returns by showing that the division of dollar gains between acquirers and targets is roughly equal and that the division of gains is a function of market power of the firms involved. For example, targets that have relatively scarce characteristics and that do not depend on their acquirers, whether as suppliers or as customers, receive a larger share of the wealth gains from the transaction. Ahern's (2012) work integrates analysis of the impact of the product market into merger analysis.

Betton, Eckbo, Thompson, Thorburn (2014) look at runup in target stock prices before merger announcements to determine if those runups affect the price that the acquirer pays for the firm. If runups reflect information about the impending bid and do not reflect changes in the target, the relation between the runup and the bid premium should be a one-to-one inverse effect.

However, they argue that the runup might reflect a feedback loop. If the runup in the stock price reflects public disclosure of highly valued synergies between the target and the acquirer, the runup may serve as a signal about the value of the impending bid. Thus, the bid may be higher to reflect this acknowledgement of valuable synergies. However, the authors also find that runups do not directly increase bidder takeover costs.

Kedia, Ravid and Pons (2011) focus their research on vertical mergers. They note that returns to acquirers in vertical mergers in the 1990s were generally positive but since then returns to acquirers have been significantly negative on average. However, when they consider specific deal characteristics, they find that vertical deals between partners with market power, especially in concentrated industries, are associated with more positive outcomes. They find little support for the importance of factors that have been found to be important in explaining returns in horizontal mergers such as information contracting problems, operating synergies or price uncertainty. They conclude that while horizontal mergers may be more important in creating operating efficiencies, vertical mergers are strongest when taking advantage of non-competitive environments.

Baker, Pan and Wurgler (2012b) note that conceptually the offer price for a firm would reflect the intrinsic value of the target plus any expected synergies resulting from the mergers. However, given the difficulties in identifying that true value, acquirers look to reference point stock prices. They specifically look at past benchmark high prices and find that the 52-week high price consistently seems to be an important determinant of bid level, bid success and returns to the acquirer. I.e., the offer price is likely to be at or slightly above the 52-week high, and this bid price is associated with greater bid success and better returns to the acquirer. They argue that multiple parties in the transactions – including advisors, boards, investors and financiers on both

sides of the deal – form expectations about the premium to be paid based on the benchmark price and that acquirers react systematically to these expectations.

Ye (2014) looks at a similar effect with respect to benchmark prices. In specific, he references the literature on the disposition effect in which investors are found to be more reluctant to realize losses than gains. Ye (2014) questions whether institutional investors of target stocks are reluctant to sell shares if the takeover price is lower than their initial investment price and how any such behavior might affect takeover outcomes. His evidence suggests that institutional investors do set a minimum sell price related to their purchase cost and that this bias has a significant impact on takeovers. Acquisition prices reflect institutional investor expectations and if acquisition prices are lower than the institutional investors purchase cost, deals are more likely to fail.

Chatterjee, John and Yan (2012) show how takeover returns can be affected by market perception. They suggest that divergence of opinion about the target value can affect the premium paid to acquire the target. Higher divergence of opinion, they argue, should result in higher total takeover premiums, pre-announcement run-up and post-announcement markup due to the higher price it takes to get a sufficient number of investors to sell their shares. They also report that higher divergence of opinion about firm value can lower the probability of the firm being a takeover target.

Edmans, Goldstein and Jiang (2012) enter into the debate of whether lower market valuation of a firm can lead to the firm being the target of a takeover. They argue that previous studies that have shown little relation between market valuation and takeover probability have not adequately controlled for other factors that might affect the relation. By using mutual fund redemptions as an instrument for overall market conditions, they are able to distinguish between

a firm being valued below its potential as opposed to simply low valuation caused by the overall market. They show a strong relation between a firm being valued below its potential and the probability of it being a takeover target.

Gorbenko and Malenko (2014) consider cross-sectional variation in target valuation. It is commonly reported that strategic buyers will value targets more highly than financial buyers, presumably due to potential synergies to be created in the acquisition. Gorbenko and Malenko (2014) confirm that strategic buyers do, on average, value targets higher than financial buyers. However, they also find that for a significant subset of targets, financial buyers offer higher valuations. This subset, they find, is characterized by targets that perform poorly and have few investment opportunities. They suggest that financial buyers may have more experience in dealing with poorly managed companies and may also have better access to cheaper debt financing. Their results overall emphasize the importance of recognizing cross sectional variation in mergers and acquisitions.

3.6 Are wealth effects disguised by other information or measured incorrectly?

The preponderance of the papers reviewed up to this point have used stock price reactions to the announcement of a takeover as the means to understand the value of various acquiring firm, target firm or bid characteristics. However, several researchers have investigated the possibility that these stock price reactions do not correctly reflect the underlying valuation effects for various reasons, including anticipation of bids, incorrect dates being tested and the contagion of other information about the firm being released on the bid announcement date.

Mulherin and Simsir (2015) note that fundamental to correctly identifying announcement effects related to M&A is correctly identifying the date at which information becomes known to the market. They compare the commonly used “date announced” in the SDC database to dates of

merger-related events identified in news sources. They find that ignoring the wealth effects associated with earlier merger news yields biased results if the researcher is trying to capture the wealth effect of the merger. They find that using an alternative SDC measure, the "original date announced," mitigates the problem to some extent. However, they find that they are able to improve identification of dates at which the market becomes aware that a company is a probable takeover target through additional hand-collected news searches. Thus, they caution researchers against over-reliance on the SDC database. Reassuringly though, Bollaert and Delanghe (2015) confirm the general accuracy of the SDC in many cases, especially in comparison to the alternative Zephyr database.

Cai, Song and Walkling (2011) also question whether the announcement date fully reflects information about an M&A deal. They consider whether the market is able to anticipate probable bids by acquirers. If the bid is anticipated, announcement returns will be closer to zero, reflecting that information about the bid is already incorporated into the stock price. To test this hypothesis, Cai et al. (2011) look at returns to acquirers within an industry, and find significantly higher returns for bidders where there had not been a bid within the industry for at least a year as compared to bidders in industries with bids announced within the past year. Overall, they suggest that once anticipation is accounted for, the returns to bidding previously associated with negative returns are in fact significantly positive. Their results are similar to the findings of Fuller, Netter and Stegemoller (2002) that acquirer announcement returns decline as a firm makes multiple bids.

Rodrigues and Stegemoller (2014) consider the contagion effect by looking at special purpose acquisition corporations, i.e., firms that go through an IPO solely to raise cash for their acquisition strategy. The primary information released at the time of the bid would simply be

information related to the bid since the acquirer has no operating assets that might be combined with a target, with no resulting synergies to value in a bid. Therefore, the acquisition announcement effect reflects primarily the valuation split between the acquirer and the target and the information effect of the announcement indicates the accuracy of the valuation of the target. Rodrigues and Stegemoller (2014) find that in these transactions, the returns to the acquirer are about three times that of a typical acquisition. They suggest that the lower returns for traditional acquirers may reflect negative information about traditional acquirers' ability to estimate synergy effects or the investment opportunities of the acquiring firm.

Liu and Wu (2014) suggest that the small or negative return at the announcement of mergers is due to market activity rather than fundamental information about the bidder. Following Mitchell, Pulvino and Stafford (2004), using daily shorting flow data, they show that the majority of the negative announcement returns in stock mergers can be attributed to price pressure resulting from merger arbitrage short selling.

Bessembinder and Zhang (2013, 2017) investigate the methodology behind measuring long-run stock returns following corporate events. They look at several significant firm events, including M&A and conclude that long-run return estimation must control for characteristics in matched firms such as return momentum, illiquidity and the rate of capital investment. After controlling for these characteristics, they find that long-run returns are insignificantly different from zero for firms that complete M&A transactions.

3.7 The importance of networking and relationships in acquisitions

An important development in the recent M&A literature is its focus on the role of networking and relationships in acquisitions. While earlier research did not worry much about the role of individuals in sharing information or providing personal benefits, the availability of

databases that provide extensive background information on CEOs and board members has led to significant research in this area. The research in this area is one of the most important extensions in the recent corporate governance and M&A literature.

Cai and Sevilir (2012) investigate the relationship between the boards of acquirers and targets. They show that if the acquirer and the target share a board member, acquirer returns are higher than otherwise. They also report that if an acquirer board member and a target board member are jointly on the board of another company, acquirer returns are also higher. Cai and Sevilir (2012) suggest that in the first case, returns may be higher because the deal is executed more efficiently and perhaps at a lower takeover premium since the board member represents both firms. In the second case, however, they argue that the directors may have better combined knowledge about the overall potential success of the deal.

Ishii and Xuan (2014) determine the extent to which directors of the acquirer and the target are socially connected as measured by educational and previous employment relationships. Being connected more closely may translate into advantages in identifying and executing successful transactions. Their findings suggest that acquiring directors who are closely related to target directors are more likely to make acquisitions with more negative acquiring firm wealth effects, suggesting that connections may actually lead to poorer decision making. In addition, connected target firm directors are more likely to be kept on after the merger and the acquiring firm CEOs bonus is positively affected by completion of connected deals. The findings of Ishii and Xuan (2014) also suggest that connected-director acquisitions are more likely to be later divested for poor performance.

In an extension of Ishii and Xuan (2014), Schmidt (2015) considers the relationship between the CEO and his or her board of directors. General board theory suggests that when

monitoring is important, a more independent board will increase firm value. However, if the board has an important advisory role, close connections between the board and the CEO can be helpful. Schmidt (2015) separates mergers and acquisitions transactions into categories in which the CEO would benefit more from advice versus would need less advice. He reports that in those cases where the directors have valuable knowledge about a potential acquisition or where the target acquisition is more likely to be associated with agency problems, a closely connected board results in more positive acquirer returns. In contrast, if there are greater disciplinary concerns, a closely connected board can have a negative impact. The same pattern is not observed when directors are categorized by the regulatory definition of independence.

Rather than simply looking at individual connections, El-Khatib, Fogel and Jandik (2015) explore the interrelatedness of directors over a larger scheme. Using BoardEx data, they construct the social network for CEOs of US firms and categorize their overall interconnectedness. They report that those CEOs with the greatest interconnections, i.e., with "high centrality," are more likely to initiate acquisitions but also have a more negative return for those acquisition announcements. These results are somewhat mitigated by the presence of stronger corporate governance mechanisms but the authors suggest that high-centrality CEOs do not seem to use their contacts to benefit their shareholders.

Rousseau and Stroup (2015) also explore director interrelationships by examining the board membership history of directors. They find that acquirers are significantly more likely to acquire firms where one or more of their directors previously served on the board of the target. Their results support the idea that directors can facilitate transactions through the transfer of information.

Renneboog and Zhao (2014) confirm for UK firms many of the findings of the interconnected director literature. They report that if a bidder and a target have a director in common, the probability of successful completion of the deal increases, the length of the negotiations decreases and the use of equity as the method of payment increases, all factors that may suggest more trust between the two firms. It is also more likely that directors of the target firm will be asked to remain on the board of the merged firm. In addition, firms with better connected directors are more active bidders.

Ferris, Houston and Javakhadze (2016) add to the importance-of-connections literature by showing that the appointment of former politicians and regulators to the boards of directors affects firms acquisition activities. Since most mergers in the US are subject to review and approval by various government agencies, including the Department of Justice, the Federal Trade Commission and individual state authorities, the appointment to the board of directors of individuals who know how to navigate the process can help avoid complications and regulatory restrictions on merger activities. Ferris et al. (2016) show that politically connected bidders are more likely to acquire targets and that those targets are generally larger than those of non-politically connected bidders. The politically connected firms are less likely to face regulatory challenges and experience better announcement returns.

Bargeron, Lehn and Smith (2015) look at the importance of relationships in the firm in a different way. They emphasize that the level of trust that employees have in their management can affect the acquisition activity of the firm. In particular, while they do not find significant differences in the number of deals between high- and low-trust firms, they do find that high-trust firms undertake smaller transactions than low-trust firms. In addition, when high-trust firms do enter into large transactions, the wealth effects to the acquirer are more negative than for low-

trust firms and the trust measure for the acquirer decreases. Their results suggest that corporate culture does affect investment policies.

In a paper related to the trust question, Deng, Kang and Low (2013) look at whether firms that have a higher corporate social responsibility index make better decisions for their shareholders. They find that high CSR acquirers experience more positive wealth effects at the announcement of bids and the combined wealth effect of the acquirer and target is also more positive. They show evidence of larger increases in post-merger operating performance plus the deals are completed more quickly and are less likely to fail. Overall, their results suggest that higher CSR acquirers make better decisions in the merger arena and that firms that make stronger CSR decisions may also be making better decisions for their shareholders.

3.8 Impact of financial constraints and capital structure on M&A decisions

Since takeovers necessarily involve significant capital investments, many researchers have looked at the interrelationship between the financing decision and the investment decision. Almeida, Campello and Hackbarth (2011), for example, consider the relation between the target's and bidder's liquidity to develop a model of "liquidity mergers." They suggest that targets that are financially distressed may not be able to acquire financing to avoid liquidation. However, liquid bidders may acquire these targets even in the absence of operational synergies to prevent inefficient termination of the target. They substantiate this effect empirically and find that the effect is strongest in industries with high asset-specificity but in target firms with assets not too firm-specific. Their work provides evidence of the connection between corporate financial policies and merger and acquisition decisions.

Erel, Jang and Weisbach (2015) also investigate the impact on financially constrained target firms of being acquired by firms that can ease these constraints. Using a sample of target

firms for which post-merger data are available, the authors show that targets that were previously financially constrained change their balance sheets in ways that suggest they no longer feel as constrained. Cash balances are reduced, sensitivity of cash holdings to cash flow declines as does the sensitivity of investments to cash flow. Overall, the previously constrained firms also increase their investments. Thus, Erel et al. (2015) confirm a benefit of being acquired, one which adds to our understanding of the gains from merging.

Erel, Jang, Minton and Weisbach (2017) add to this analysis in a recent working paper. They show that firms that have higher cash holdings are more likely to make acquisitions and these cash holdings seem to be especially important during poor macroeconomic conditions. Thus, the cash holdings seem to allow firms to make significant investments even in difficult economic times. While cash holdings act to ease constraints during poor macroeconomic conditions, they may actually encourage overinvestment during good conditions. Erel et al.'s (2017) evidence on acquirer announcement effects suggests that this overinvestment does occur in good macroeconomic periods.

Uysal (2011) examines the role of the acquiring firm's capital structure in the number and structure of merger and acquisition transactions. He finds that if acquiring firms have a "leverage deficit," i.e., more debt in the capital structure than suggested by the firm's target debt ratio, the firm undertakes significantly fewer deals than if its leverage is more balanced. He also reports that being overleveraged impacts the structure of the deal; overleveraged acquirers pay lower premiums and are less likely to use cash in their offers. In addition, if firms in a leverage deficit announce an acquisition, the wealth effect is significantly positive suggesting that the market perceives that these firms will only enter into the most beneficial acquisitions. However, he does not report analogous results for firms that are underleveraged. The transactions of these firms are

similar to those of firms whose capital structure is closer to the target. To the extent feasible, overleveraged firms actively change their capital structure when they anticipate entering into acquisition transactions, illustrating the interdependence of the financing and investment decision.

Vermaelen and Xu (2014) relate the use of stock payment to optimal capital structure. They argue that since target shareholders prefer the known value of cash payments, target firms will only readily accept stock payment if the bidder can justify the use of stock due to capital structure considerations or similar rationales. If the rationale is not convincing, target shareholders will conclude that the stock is overvalued. Vermaelen and Xu (2014) develop a model of predicted financing and show that the financing method in acquisitions is generally consistent with the idea that targets accept stock financing when it is perceived that the firm is choosing stock financing for reasons other than overvaluation of the stock. Nevertheless, long-term abnormal returns are significantly negative for anticipated stock payers, indicating that the stock may still be overvalued even if the model provided economic-based rationale for stock payment.

Vladimirov (2015) brings an additional issue of being financially constrained to the method-of-payment literature. While most of the payment literature has focused on the basic choice of the bidder in using cash or stock to pay for a company, Vladimirov (2015) highlights that there is an additional decision to be made when cash is used. Unless the firm has sufficient cash to internally finance a bid, the firm must raise funds by issuing either equity or debt. Vladimirov (2015) shows that if an acquirer can raise debt capital to finance the bid, bids are higher and there is overbidding. In contrast, if the acquirer does not have competitive access to debt markets and must issue equity to raise funding, bids are lower and there is underbidding.

Thus, Vladimirov (2015) argues for incorporating the source of financing for cash bids into takeover models just as much as the method of payment itself.

In an empirical study of international private equity fund buyouts, Axelson, Jenkinson, Stromberg and Weisbach (2013) also find that those firms with easier access to debt markets are likely to pay higher transaction prices and thus seem to be more likely to overpay for their acquisitions. They use their sample to study capital structure decisions made by private equity funds for their acquisitions and find little support for the importance of traditional trade-off cross-sectional factors that explain much of public firm capital structure. Rather, they show that credit conditions overall are the primary determinant of deal leverage for these private equity funds.

Similarly, Shivdasani and Wang (2011) note that the increase in the number of LBOs was closely tied to the development of the structured credit market, especially in collateralized debt obligations. They find a high correlation between the growth of the LBO and CDO market, especially in the 2004 to 2007 period, suggesting that credit market conditions rather than simply fundamental characteristics of the LBO firm help to explain the boom. As such, they investigate whether the transactions taking place in this period were less sound than those in periods when credit was relatively more difficult to obtain. Overall, they find little evidence that CDO deals were riskier or had lower cash flows than non-CDO deals nor do they find evidence of overpayment in these LBO deals.

3.9 IPOs and deal structures and their impact on M&A

Researchers have found that acquirers will choose deal structures that lead to their ability to enter into additional transactions or that affect the pricing or outcome of the deal. Often these

decisions are related to the firm's earlier IPO decision. This section considers the recent research relating IPOs and deal structure to M&A.

Arikan and Stulz (2016) examine the acquisition activities of firms over their life cycle by following firms starting from their IPO. By creating IPO cohorts, they determine that acquisition rates are sensitive to the number of years the firm is after its IPO. The highest acquisition rates are for firms less than four years after their IPO and for more mature firms in the 10 to 20 year post-IPO range. The authors suggest that the IPO provides acquisition funding for the young firms and also allows the firms to use stock as payment for their acquisitions. In addition, firms make diversifying acquisitions throughout their life cycle, with no evidence that mature firms are more likely to diversify, as might be suggested if mature firms had greater need for alternative investment projects. The authors argue that their evidence supports a neoclassical view of acquisition activity for all firms, in that the acquisitions are wealth increasing, with the exception of older firms experiencing negative stock price reactions for acquisitions of public firms.

Hsieh, Lyandres and Zhdanov (2011) also look at how a firm's IPO decision could be related to acquisition activity. Going public allows the firm to establish its valuation through the capital market and thus facilitates the firm's ability to carry out an effective acquisition strategy. Publicly traded stock eases the structuring of a deal using stock as the method of payment and raises capital to be used for acquisitions. However, Hsieh et al. (2011) note that about 25% of post-IPO mergers are cash deals and that many deals do not require additional capital raised through the IPO. Thus, the authors argue that better valuation of the firm improves managers' overall decision making about their overall M&A policy. They observe that firms with a higher

than expected valuation at the IPO are more likely to pursue an active acquisition strategy than a firm with a negative surprise.

Offenberg and Pirinsky (2015) look beyond the structure of a deal as either a tender offer or a merger to emphasize the importance of understanding the underlying determinants of the choice. They report that tender offers are associated with the faster deal execution, reflecting considerations such as strategically important acquisitions or acquisitions in particularly competitive environments. Not surprisingly, tender offers are also generally more expensive to the acquirer than a merger. They suggest that researchers incorporate the determinants of the tender offer vs merger decision in M&A analysis to more accurately represent the transactions.

Gogineni and Puthenpurackal (2017) look at the decision to include go-shop provisions in merger agreements. Go-shop provisions allow the target to actively solicit bids for a period (typically 30-45 days) after the announcement of a merger agreement with a particular bidder. The authors investigate the rationale for these clauses and in particular try to determine whether the usage reflects agency problems or if they are used to benefit target shareholders. The authors find that go-shop provisions are more likely to be included in negotiated deals and in target firms that are characterized by relatively good governance. They also find that go-shop provisions are associated with higher initial premiums paid to the target and higher cumulative abnormal returns at the merger announcement. The transactions are also more likely to attract competing bids as opposed to mergers without go-shop provisions. The authors conclude that go-shop provisions provide benefits to target shareholders.

Billett and Yang (2016) examine the use of bond tender offers in acquisitions. They expect that acquirers would make a bond tender offer when the characteristics of the target's bonds are such that they could restrict or make a bid more difficult due to restrictive covenants or

coinsurance considerations. Their evidence confirms this and also shows that bond tender offers can help with the completion of bids and are associated with lower premiums paid to target shareholders. Bond tender offers are more likely to occur when bonds have junk credit ratings or change-in-control restrictive covenants and when the overall deal results in higher leverage for the merged firm. Thus, bond tender offers seem to play an important role in facilitating deal completion.

Another deal characteristic that can influence deal success is the presence of a toehold position by the acquirer in the target's stock. Povel and Sertsios (2014) analyze toehold positions as a source of information about the value of potential synergies between the target and the bidder. They suggest that toeholds can facilitate information transfer between the target and the bidder and that toeholds are more beneficial if the target is more difficult to value for the bidder. The empirical work of Povel and Sertsios (2014) confirms the importance of toeholds as a means to transfer information. They note that most of the previous literature has focused on the use of toeholds as a strategic bidding tactic and their work contributes to the importance of information acquisition in merger decisions.

Another decision made by managers of a private firm is how to exit the firm, where the choices include undergoing an IPO where generally the existing management stays in control of the firm versus being an acquired by another company. Bayar and Chemmaneur (2011) model this decision, emphasizing the tradeoff between standing alone in the product market if the firm undergoes an IPO or having the backing of an acquirer that might be able to provide considerable help as the firm gets established. Other considerations that might be important to the decision include information asymmetries between the firm management and outside investors, the private benefits of control to insiders and the roles of the entrepreneur and the VC investor in

making the exit decision. As opposed to many of the articles reviewed here, this research emphasizes the important role of the target in its decision to put itself up for sale in understanding overall M&A activities.

3.10. Antitakeover strategies

The hostile bidding environment of the 1980s and 1990s led to extensive analysis of antitakeover strategies, including charter amendments, state antitakeover laws and regulatory environments around the world. Cremers and Ferrell (2014) and Straska and Waller (2014) provide extensive reviews of the corporate governance and antitakeover provision literature, further identifying the negative association between firm value and restrictions on shareholder rights. Buchanan, Netter, Yang and Poulsen (2012) review important differences between the UK and the US in shareholder proposal rules, demonstrating how country differences in antitakeover provisions can have a significant impact on takeover strategies. In this section, we consider recent works that look directly at the impact of antitakeover provisions on M&A in the US and internationally. These papers are generally consistent with much of the previous literature in this area.

Johnson, Karpoff and Yi (2015) suggest that takeover defenses may be optimal in specific situations. They look at a sample of initial public offering firms and show that these firms can bond themselves to specific corporate policies through the use of takeover defenses adopted at the time of going public. For example, they find that takeover defenses are more likely to be adopted when the firm has important business relationships to protect. They find that an IPO firm is more likely to use takeover defenses the longer the firm's business relationships and that the IPO firm valuation and subsequent operating performance is positively related to the use of takeover defenses when there are important business relationships.

Atanassov (2013) investigates whether protection from hostile takeovers as result of changes in state antitakeover laws impacts innovation and firm value. He finds a decline in the number of patents and citations per patents for firms in states which pass antitakeover laws. These results contribute to the debate of whether the threat of hostile takeovers will cause managers to focus on short run profits instead of long-term innovative activities. Atanassov's (2013) results suggest that protection from takeovers does not result in more innovative, long-run investments by the firm, though he does find that alternative governance mechanism such as significant blockholders can mitigate the effect of protection from state antitakeover laws. Overall, he emphasizes the importance of an active market for corporate control for the encouragement of innovation and economic growth.

Jandik and Lallemand (2014) show that target firms in withdrawn takeover attempts significantly increase their leverage through debt issuance in the time between the announcement and the withdrawal of the takeover bid. The managers are also more likely to repurchase their own equity in this time period. Jandik and Lalleland (2014) report that the stock price reaction to the debt issuances are significantly negative, especially for targets with poorly performing or entrenched managers. These results suggest that managers' hostile to a takeover bid can adjust their capital structure to increase the probability of blocking a bid.

Cain, McKeon, and Solomon (2017) examine the relation between hostile takeovers and 17 state laws from 1965 to 2014. They find that business combination and poison pill laws had little effect on hostile takeover activity but there is evidence that fair price laws have reduced hostile takeover activity. They report that firm value increases with takeover susceptibility but if there is a bid, higher takeover protection is associated with a higher premium. They find little

evidence that state takeover laws are a major determinant of firms choosing to reincorporate in different states.

Liu and Mulherin (2017) study a random sample of takeovers from 1981 to the present to delve deeper into the impact of state antitakeover laws and firm-specific takeover impediments such as poison pills and classified boards on the M&A market. They compare the corporate takeover market in the 1980s with later decades. They confirm prior findings that hostile takeovers and publicly reported takeover auctions have declined since the "wild west" of the 1980s. However, contrary to most perceived wisdom, they find that overall takeover competition has not declined since the 1980s and that most takeover bidding now occurs behind the scenes prior to the public revelation that a target firm is in play. Moreover, target firms themselves are now more likely to put themselves up for sale rather than await an unsolicited bidder. Finally, they report that a proper accounting for the changes in the corporate takeover process affects the determination of M&A premiums. These fundamental changes in the takeover auction process between the 1980s and later decades confirm a lesson in Netter, Stegemoller and Wintoki (2011) that sample and time period are important in M&A research.

3.11 What happens when firms merge? Evidence on market competitiveness, restructuring, synergies and misvaluation

Much of the previously reviewed literature covers what happens at deal announcement and how wealth is impacted by various characteristics of the various parties involved. An important stream of the literature, however, looks at why do firms merge in the first place. A better understanding of the answers to this question comes from looking at competitive features of the market and post-merger actions taken by the merged firms. Most of the papers reviewed

here try to understand whether gains from mergers represent synergies, corrections of misvalued assets or changes in the overall competitiveness of the market.

Becher, Mulherin and Walkling (2012) offer an analysis of the utility industry as a means to better understand the source of gains in corporate mergers, focusing on the traditional theories of synergies, collusion, hubris and anticipation. They find that utility mergers create wealth for the combined firm, consistent with both the synergy and the collusion explanation of overall wealth gains. By examining returns to rival firms at the announcement of the merger, Becher et al. are able to conclude that the merger gains seem to better reflect synergies for the combined firm as opposed to collusive behavior that would benefit other competitors in the now more limited market, even when they distinguish between the regulated 1980-1992 period versus the deregulated period post 1993. Overall, they suggest that utility industry mergers benefit consumers as well as shareholders. White (2002) and White and Yang (2017) help to ease some of the concerns about decreased competition as a result of M&A in their studies of changes in US aggregate concentration ratios over time. Despite the large number of M&A transactions since the 1980s, they find that overall concentration is still lower than it was in the 1980s.

The theoretical model of Bernile, Lyandres and Zhdanov (2012) considers some of the issues raised in Becher et al. (2012) and other papers that look at the competitive environment of the post-merger product market. Their model incorporates horizontal merger decisions and new entry into the industry and suggests that horizontal mergers should occur with greater frequency during periods of extreme growth or decline in demand. In periods of intermediate demand, merging could invite the entry of new firms and thus reduce any benefits that may have resulted from pricing power of the merged firm. In addition, they note that this effect is strongest in

industries that are relatively more concentrated, have strong competitive interactions between firms and have low merger-related operating synergies and restructuring costs.

Akdogu (2011) offers an alternative explanation based on the competitive environment for negative bidder returns in her model of overbidding in takeovers. She suggests that acquisitions offer a means for firms to improve their competitive position at the expense of other firms in the industry. As such, she models the situation where if a firm can be adversely affected by a competitor's acquisition, the firm might compete for the target and rationally "overpay" to avoid the risk of losing future opportunities. Thus, even though the acquisition has a negative impact on wealth today, it might be a necessary undertaking given the anticipated competitive environment. In short, she argues that the firm may end up being better off than if they did not complete their merger despite the negative wealth effect.

Phalippou, Xu, and Zhao (2015) extend the analysis of the competitive environment of market of the acquirer. They note that technological change in an industry can lead to substantial acquisition activity, as highlighted in Mitchell and Mulherin (1996). Firms in the industry, observing frequent acquirers, may decide to strategically purchase an acquiring firm to prevent being acquired itself. Phalippou et al. (2015) refer to this the "eat in order not to be eaten" defensive strategy (Gorton, Kahl, and Rosen (2009) also identify this strategy, among others). They find that this strategy is associated with negative returns to the "acquiring acquirers" and that the negative effect is monotonically increasing in the number of firms previously acquired by the firm now being purchased.

Maksimovic, Phillips and Prabhala (2011) provide evidence on firm restructuring following the acquisition of assets through mergers. They use plant level data from the US Census Bureau to identify post-merger transactions. They report that on average, merged firms

sell off or close 46% of the plants they purchase within 3 years of the acquisition. They also report that acquirers are more likely to keep plants that are closer to their existing lines of business, that are more productive and that were purchased in cash deals. Overall, the acquirer experiences an increase in productivity across the plants they keep. The complexity and the dynamic nature of restructuring following a merger suggests that it is important to analyze the continuing nature of restructuring over time.

Bharath, Dittmar, and Sivadasan (2014) similarly look at the impact of change in control on the productivity of acquired firms. However, they focus on going-private transactions which allows them to also consider whether leaving public markets provides an additional benefit to firms. They report increases in efficiency at the plant-level once the firm goes private but are unable to show that those gains are the direct result of the going private transaction. Overall, they find that the productivity improvements are similar to those for a peer group of plants after controlling for industry and firm characteristics. However, they do report that going private increases the restructuring activities of the target firms.

Ayash, Bartlett and Poulsen (2017) compare returns in leveraged buyouts between transactions that emphasize what they call the "classic" strategy, in which operating efficiencies are emphasized, versus the "entrepreneurial" strategy focused on revenue growth. Rather than relying on announcement returns at the time of the LBO, they track actual LBO company cash flows to and from the LBO sponsor for the full life of the sponsor's investment in the company. Overall, they find that while LBOs that emphasize operating efficiencies produce the highest "exit" returns, the LBO sponsors are unable to monetize these returns due to delays associated with liquidating portfolio positions. In contrast, LBOs that focus on growing revenues are associated with higher realized returns to LBO sponsors.

Bena and Li (2014) consider the importance of technological linkages between firms in determining whether to merge and how successful the merger might be. Overall, they find that firms with large numbers of patents and low R&D expenses are more likely to be acquirers, while firms with high R&D expenses but low numbers of patents are more likely to be targets. Firms that have some technological overlap are more likely to merge, though the effect is mitigated if firms compete in product markets. The importance of the matching of technology skills and needs suggests that synergies from combining innovation capabilities are important to the success of mergers.

Barraclough, Robinson, Smith and Whaley (2013) suggest a means to use option prices to identify whether merger premiums represent synergistic gains or overpayments. Their analysis indicates that changes in the value of call options accurately reflect the success probability of the acquisition and indicate that synergies created are consistent with the offer premium paid. Borochin (2014) similarly uses option prices to identify whether value changes in merging firms result from synergistic value creation or new information about the stand-alone value of the bidder and target. The use of stock option data allows him to disentangle the two and he offers several examples of the methodology applied to large mergers, again confirming the creation of synergies in the transactions.

Edgerton (2012) notes that the merger synergies could result from reduction in agency problems in public firms. He uses corporate jet ownership and usage as an indicator of agency costs. After showing that private firms tend to have smaller jet fleets than public firms after controlling for firm characteristics, he also shows that firms that are taken private by private equity firms generally decrease their fleet size. Thus, he suggests that public firms may experience greater agency problems and those problems can be partially measured through the

use of corporate jets. In going private, private equity investors can lower agency problems throughout the firm.

Guo, Hotchkiss and Song (2011) note that while LBOs in the 1980s had been confirmed to be value increasing on average, little research had been undertaken to study the LBOs of the 1990s and 2000s. Thus, they study deal characteristics and post-performance for a group of LBOs completed between 1990 and 2006. They find that these deals are less levered and the initial premium is lower than earlier LBOs. Even though the firms undergo significant restructuring after they go private, the authors find evidence of significant default risk in the transactions. Their results also suggest that the firms that go through private through LBOs have positive returns based on operating gains and tax benefits, especially after those that default are excluded. However, the gains are not as significant as the deals from the 1980s and the authors suggest that many more LBOs would have defaulted if economic conditions had been more challenging during this period.

Lerner, Sorensen and Stromberg (2011) investigate whether going private through a leveraged buyout allows managers to maximize firm value without short-term pressures from shareholders or whether LBO funds will encourage those same short-term performance goals. They examine patent activity of newly private firms and find no evidence that LBO firms decrease their long-term investments, and in fact their patents seem to be more profitable as indicated by number of proxy citations and increased concentration of patents in areas profitable to the firm.

Sheen (2014) investigates the source of value creation in mergers by examining the product market of the merged firm. Sheen (2014) uses product line information from *Consumer Reports* magazine to collect unique data on changes in product quality and prices. He finds that

when two competitors merge, their products converge in quality and prices fall relative to the competition. He does not find a price decline, however, when the merged firms operate in different product markets. Sheen's (2014) analysis provides straightforward evidence that when related firms merge, operational efficiencies are experienced and at least a portion of the gains are passed on to customers.

Fulghieri and Sevilir (2011) suggest that mergers between competing firms can have a negative impact on incentives for innovation within the firm. Especially in industries that are dependent on scarce human capital, the merged firms result not only in reduced product market competition but also reduced competition for employees. This reduction in competition for employees decreases incentives for employees to develop skills in innovating new production techniques and other operational skills. Their model suggests that it might be optimal for the merged firm to encourage new competition for employees by accommodating new firm entry or spinning off their own divisions into new firms.

Mortal and Schill (2015) study the finding that acquisitions that are paid for with stock of the acquirer tend to have poor stock returns in the period following the transaction. They relate this finding to another empirical finding, namely that asset growth in firms is inversely related to future returns. They find that stock deals are more likely to be associated with high-asset growth firms and, accordingly, have negative stock returns. In addition, they find that target firms acquired with stock but that are not associated with higher asset growth have high stock returns. Thus, they emphasize that it may be the type of firm acquired in a stock acquisition that determines the negative return rather than characteristics of the bidding firm itself.

Erel (2011) looks at bank mergers and finds that, on average, they are associated with reductions in loan spreads. Her results suggest that the mergers result in efficiency gains passed

on to borrowers, helping to ease concerns that bank mergers might lead to decreased competition (and higher spreads) in the banking sector. She also reports that the amount of loans made to riskier borrowers increases after mergers, suggesting that the merged firms are not dropping their riskiest customers. She does find some evidence, however, that in markets where competition is reduced significantly, spreads do increase.

Faccio and Hsu (2017) study whether acquisitions of private equity buyout firms that are politically connected are more likely to increase employment as compared to acquisitions by non-politically connected PE firms. The PE firm is defined as having political connections if a general partner, board member or top employee has a major political position in state or federal government or has a close affiliation with such a person. The authors report that targets of politically connected PE firms increase employment by 1.24% per year following the buyout as opposed to 0.33% for target firms of non-connected PE firms. The same relative relation is observed after controlling for endogeneity and selection concerns. While it is difficult to say why this relation is observed, Faccio and Hsu (2017) suggest that the increase may represent an "exchange of favors" and report several additional findings consistent with this idea. They find that employment increases more in election years and in states with high levels of corruption. They also find that increases in employment are associated with increased likelihood that an incumbent will be re-elected and that target firms receive government contracts and grants.

3.12 Merger waves and macro conditions affecting mergers

The existence, determinants and impact of merger waves is a subject of debate and research in the M&A literature. Maksimovic, Phillips and Yang (2013) contribute to the merger wave literature by examining differences between public and private firms in these waves. They suggest that if merger waves reflect positive investment opportunities, one would not expect

significant differences between public and private acquirers. However, if waves are a reflection of changes in liquidity and investment climate that allow certain types of firms better access to capital, one might observe, for example, public firms being more active in the merger wave due to their ability to take advantage of high valuations in the stock market to buy assets. Overall, they find that public firms are almost twice as likely to participate in M&A in wave years as compared to non-wave years, while private firms are relatively insensitive to the presence of merger waves as noted by Netter, Stegemoller and Wintoki (2011). However, they argue that this result is not just due to access to capital markets. Rather firms that are public seem to be associated with better productivity and that productivity translates into more acquisitions when profitable opportunities arise in merger waves. Their findings also suggest that acquisitions in wave years are, on average, associated with greater efficiency improvements than those in non-wave years.

Garfinkel and Hankins (2011) suggest that merger waves may be initiated by firms entering into vertical mergers to help hedge against uncertainty in economic conditions. They find that increases in cash flow uncertainty encourages firms to vertically integrate and that these mergers contribute to the start of merger waves. These results are especially strong for firms that have high asset-specificity suggesting that they may be the firms with the greatest need to hedge cash flows. Overall, they find that firms that vertically integrate experience decreased volatility in their cash flows.

Ahern and Harford (2014) also confirm the importance of industry connections in merger waves. They use network topology to show that stronger product market connections lead to more cross-industry mergers and that merger waves are enhanced by customer-supplier connections. Overall, they find that merger activity is transmitted to industries with closer

connections more quickly than those with more distant connections. In addition, they suggest that overall wave activity is driven by merger activity in industries more central to the product market network. Thus, they find support for an economic basis to merger waves.

In an analysis of merger waves in takeovers initiated by public acquirers, Duchin and Schmidt (2013) find evidence that merger waves are associated with poor quality transactions. They find that the deals have more uncertainty and weaker CEO turnover-performance sensitivity, suggesting reduced monitoring of managers. In addition, they find that average long-run performance in wave-initiated transactions is significantly worse. The authors suggest that merger waves may provide opportunities for managers to disguise poor acquisition.

Haddad, Loualiche and Plosser (2017) suggest that waves in leveraged buyout transactions may be related to financing considerations. In specific, they find that buyout booms are closely related to declines in the aggregate risk premium rather than other credit-specific conditions such as the cost of debt. Overall, booms are consistent with a higher valuation of performance gains and decreased cost of holding illiquid assets resulting from lower risk premiums. Extending their research, the authors note that the study of corporate decisions in general should incorporate analysis of the role of risk premiums.

Van Bekkum, Smit and Pennings (2011) explore determinants of mergers by contrasting rationale explanations for mergers based on expectations of cost efficiencies, synergies, market power and growth options with a more behavioral view that mergers occur when financial markets fail to price firms correctly. They recognize, of course, that both explanations may come into play. They suggest two key findings from their research. First, “bidders buy smart.” The authors suggest that bidders use overvalued equity wisely and finance acquisitions inexpensively with that equity. In addition, their targets tend to be relatively undervalued relative to non-target

firms with similar growth options. Second, the authors also suggest that bidders time their acquisitions carefully for when their stock is most overvalued and they have the greatest advantage relative to their targets.

Nguyen and Phan (2017) suggest that government policies can affect the probability of mergers occurring. They show that uncertainty in government policies such as tax, government spending and regulatory and monetary policies is negatively related to the number of acquisitions and lengthens the amount of time it takes to complete a deal. Their results also suggest that firms try to mitigate the impact uncertainty in policies through increased use of stock-based financing the payment of lower bid premiums. Overall, perhaps due to the emphasis on investing in only the best projects during periods of uncertainty, M&A transactions in uncertain periods are associated with larger shareholder value.

3.13 Research on international and cross-border M&A

Research on international and cross-border M&A has increased dramatically recently, reflecting the forces of globalization and the improved knowledge of corporate policies around the world whether through better understanding of economic, regulatory and cultural considerations or improved international databases on corporate activities. International research has taken several paths, including work to test whether takeover phenomena observed in the US are observed elsewhere and how differing political, economic and cultural environments around the world affect takeovers. Note that we have included papers with an international focus in some of the earlier sections if they were closely related to research in that category.

Erel, Liao and Weisbach (2012) explore the huge cross-border merger market, analyzing 56,978 cross-border mergers between 1990 and 2007. Most of these mergers are of private firms and are of relatively small companies. Cross-border mergers are similar, of course, to single

country mergers but they add the complication of varying political, cultural and economic standards and norms between the countries. In addition, imperfect capital markets, as evidenced by fluctuations in exchange rates, stock market movements and macroeconomic changes, can add additional reasons for transactions to occur. Overall, Erel et al. (2012) find that cross-border mergers are more likely given closer proximity of the bidder and target, the better the quality of accounting data and the more bilateral trade between the countries of the merging firms. In addition, they find that cross-border mergers seem to reflect similar rationale to one-country mergers though they are also influenced by valuation changes caused by increased stock market value, currency appreciation and overall economic health of the countries involved.

The role of comparable cultural backgrounds in international mergers is investigated by Ahern, Daminelli and Fracassi, (2015). They compare countries on the basis of three key dimensions – trust, hierarchy and individualism – to determine if cultural distance impacts cross-border mergers. They note that cultural distance could have a negative impact on the success of mergers if the differences between the countries increase coordination, information or other costs on the merged firm. Alternatively, cultural distance could positively impact cross-border mergers if the merged firm benefits from the diversity of experiences and skills from the merging firms. Overall, Ahern et al. (2015) find that greater cultural distance is strongly associated with fewer mergers across countries and also with lower synergy gains if mergers do occur. The authors conclude that "culture matters."

International mergers may face challenges from government authorities. Dinc and Erel (2013) study government reactions to large corporate merger attempts in the European Union from 1997 to 2006. They find that governments, in general, prefer that ownership of domestic firms remain in the home country. Governments take actions that make it more difficult for

foreign acquirers to purchase domestic firms and also provide direct support to domestic acquirers to reduce the probability of a foreign takeover. Consistent with the importance of cultural attitudes, Dinc and Erel (2013) report that opposition to foreign takeovers is especially strong in countries with more nationalist leanings, as measured by vote share of extreme right parties and by survey evidence. Dinc and Erel (2013) note that government interference in international mergers can lower the probability of success for wealth-increasing transactions and also may deter future foreign acquisitions.

Elnahas, Hassan and Ismail (2017) provide a direct illustration of the importance of culture in their study of the impact of religion on corporate decision making. In specific, they discuss the prohibition of earnout agreements, frequently used in private acquisitions, by Islamic law. They analyze the role of earnout agreements in theoretically aligning incentives of managers and owners but also in practically giving managers incentives to manage earnings to maximize their own return. Islamic law prohibits transactions where future payouts are uncertain as in an earnout agreement. Thus, Elnahas et al. (2017) identify the importance of understanding religious and other cultural constraints in designing and implementing transactions.

Mehrotra, van Schaik, Spronk and Steenbeek (2011) focus on the Japanese merger market and find significant differences from other national markets. In particular, they report that Japan is one of the few markets where mergers do not create wealth for shareholders of target firms. Rather than being focused on synergistic gains or optimal restructuring of firms, Mehrotra et al. (2011) find that most mergers in Japan appear to be driven by creditor concerns. They suggest that creditors play an important role in corporate governance for the Japanese economy and that mergers are primarily a means for creditors to protect their contractual credit claims.

Consistent with this result, they also report that, in contrast to the procyclical nature of merger activity in the US, mergers in Japan tend to be countercyclical.

Ferris, Jayaraman and Sabherwal (2013) extend the overconfident CEO literature to international mergers and acquisitions. They confirm many of the findings of the overconfident CEO literature for the US market – overconfident CEOs make more acquisitions and the acquisitions are more likely to be cash offers in that they believe their stock is undervalued. Ferris et al. extend the work in this area by looking at how demographic and country patterns affect the distribution of overconfident CEOs and their decisions made by the CEOs. Overall, they find that overconfident CEOs are more likely to be found in countries that emphasize individualism, such as countries with a Christian background. CEOs in countries that emphasize long-term orientation tend to be less overconfident. Their work emphasizes the similarities between countries in the impact of overconfident CEOs but also adds to the understanding of the importance of cultural, political and economic factors affecting corporate decision making.

Burkhart, Gromb, Mueller and Panunzi (June 2014) model the role of legal investor protection in determining the efficiency of the market for corporate control. They consider cross-country variation in legal protections and suggest stronger protection should limit the acquirer's ability to divert resources. Thus, stronger protection can reduce the profitability of the transaction to the acquirer but it might also improve the bidder's access to outside funding. If there is a competition for a target, this increased access to capital may improve the overall efficiency of the takeover market.

Kim (2012) looks at the level of investor protection in several countries and finds that acquisition strategies are closely tied to the level of investor protection in the target country. For example, he finds that mergers are the most form of acquisition in common-law countries such as

the US and the UK, while in civil-law countries, firms are more likely to be controlled through control stake acquisitions. He also notes the importance of pyramidal control links in civil law countries while acquisitions in common law countries are more likely to result in ownership dilution. Overall, Kim's (2012) results again emphasize the importance of country-specific factors in the analysis of international transactions.

Chang, Choi and Huang (2015) look at cross-border acquisitions of US acquirers to determine how the governance characteristics of the US firm affects acquirer returns. Their results suggest that US firms with relatively poor governance are more likely to have higher announcement returns at the cross-border transaction announcement. While they offer no explanation for their puzzling results, they do suggest that firms with poorer governance may be more willing to extract value from their targets. This puzzling result is somewhat mitigated when the target country has a stronger legal system and more investor protections. The latter result emphasizes the importance of considering country characteristics when evaluating cross-border transactions.

Karolyi and Taboada (2015), rather than considering the impact of investor protection laws, look at regulatory environment differences related to the banking sector in countries involved in cross-border mergers. Their results emphasize the importance of "regulatory arbitrage." They find that when bank acquirers come from more restrictive regulatory environments they are likely to make more cross-border acquisitions and these acquisitions are associated with more positive announcement effects the less restrictive the foreign environment. They emphasize both the "push" effect of banks leaving their more restrictive home environment and the "pull" effect of extending business into more accommodating conditions. Poulsen (1986) shows a similar effect for Japanese banks investing in the United States in a period when they

were able to open banks across state lines while US banks were not able to do so and the Japanese market was characterized by extreme credit controls.

Huang, Officer and Powell (2016) expand the method of payment literature to cross-border deals. They suggest that the choice of payment method should incorporate considerations based on transparency, corporate governance and institutional quality of the target country. In particular, if the corporate environment of the target firm is risky due to lack of protective institutions, whether at the firm or political level, there is increased chance the bidder could overpay for the target. Thus, the bidder would prefer to use stock as the method of payment in these cases so that any overpayment risk is shared between the acquirer and the target shareholders. However, the target may prefer cash given its relative lack of familiarity with the acquirer and its home country. The bidder must balance the tradeoff between protecting itself from overpayment and facilitating ease of deal completion with the use of cash payments. Huang et al. find that acquirers are significantly more likely to use stock to finance cross-border deals as the difference in cross-country governance measures increase. They also report that stock deals are more likely the safer target shareholders perceive the bidder's stock. These results confirm the importance of transparency and information in deal design.

Li, Chen, An and Murong (2017) use international acquisitions as a setting to further understand the stock return response to rival firms when an acquisition is announced. Previous research based on US acquisitions suggests that rival firms to a target experience significant positive stock returns at the bid announcement perhaps due to an increased probability that the rival firm will also be a target of a wealth-increasing acquisition. In a large sample of initial-industry targets across 34 countries, the authors confirm that rivals in the same industry

experience positive stock returns at the bid announcement. This result is stronger when there are financial analysts following the rivals and when the rival does in fact later become a target.

Lel and Miller (2015) use variation in changes in the ease of takeovers across many countries to better understand the role of the threat of a takeover in managerial discipline. They look at the effects of takeover acts (i.e., laws that reduce barriers to merger and acquisition transactions, improving access to information and increasing minority shareholder protection) and find that poorly performing firms are subject to more takeover attempts, poorly performing CEOs are more likely to be replaced and directors of targeted firms are more likely to be replaced in successful bids. These results are strongest in those countries with weaker investor protection. Thus, their results support the importance of the threat of takeovers in encouraging better firm performance.

Wang and Lahr (2017) create a dynamic takeover law index for European Union economies from 1986-2010 to see how changes in the index impact takeover wealth effects. They report that stricter takeover regulation results in greater wealth gains for the combined firm in a merger, with most of the increase going to target shareholders. They do not see a decline in bidder wealth effects on average. Their results suggest that takeover laws that enforce ownership disclosure and mandatory bids are the most important features for the increased wealth effects.

In another paper that looks at the international investment market, Kotter and Lel (2011) examine the investment decisions of sovereign wealth funds. They find that when making significant investment in firms, sovereign wealth funds emphasize investments in large and poorly performing firms facing financial difficulties. While these transactions are not necessarily mergers, they do represent significant investments by the sovereign wealth funds. Kotter and Lel (2011) report that associated announcement effects to the funds are significantly positive,

especially when the target firm is in significant financial difficulty. However, they do not identify any long run changes in operating measures such as profitability or growth, leaving the source of gains unidentified.

Holderness (2016) adds a very important caveat to the international M&A literature. Much of the work in this area relies on aggregate country-level data at the expense of using information available at the firm-level. He confirms existing literature results regarding the relation between country-level aggregate ownership concentration and several measures of investor protection in that country. However, when he relates the measures of investor protection to individual firm-level ownership concentration measures, the relations are either insignificantly different from zero or change sign. He encourages care in the use of aggregate country-level data since the aggregation results in the loss of information and "incorrect inferences become likely."

4. **Conclusion**

We offer the reader a review of the historical and current research on mergers and acquisitions. However, we first discuss several issues that lead us to be careful in overestimating the meaning of research results. Despite these caveats, we argue that, while any individual paper may not add much to our knowledge of M&A, the body of work adds significantly to our understanding of this important and complicated phenomenon. We then review the "historical" (pre-2011) work with a "survey of earlier surveys" with additional emphasis on key research of the earlier period. A basic and important finding in the early M&A literature is that, on average, M&A transactions create wealth as measured by the total stock price gains to bidders and targets. The historical papers lay the groundwork for much of the research we evaluate in the third section of our paper. For the most part, the later work attempts to determine the source of wealth gains by studying the processes used for transactions, how the involved parties interact, the

motivations for M&A, the sources for synergies and post-transaction changes in the merged firms, as well as methodological issues in measuring returns. While much of the historical and current research uses stock price reactions as a benchmark to study the effects of various factors influencing M&A for firms, there is also an extensive literature that looks at cross-sectional and time-series differences in M&A-related factors to better understand the underlying motivations and impact of these transactions.

We classify the more than 120 new articles we review into several categories, repeated below. While any classification scheme is imperfect, we have used our judgement to allocate the papers as we believe most appropriate. Of course, papers may fit more than one category or may not really fit into any. Nevertheless, we hope the reader finds the groupings of use and that the authors do not find that we have misinterpreted their papers. After each category, we have indicated the percent of the reviewed papers falling into the category:

3.1 What attributes of acquiring firms, their CEOs and their boards are associated with better acquisitions? (11%),

3.2 Do financial advisors or institutional investors know more? The role of experienced participants (6%),

3.3 Characteristics of the target and their impact on acquirer wealth changes (6%),

3.4 Acquiring firms characterized by overvaluation or overconfidence (4%),

3.5 Explaining target wealth effects and joint returns to targets and acquirers (8%),

3.6 Are wealth effects disguised by other information or measured incorrectly? (5%),

3.7 The importance of networking and relationships in acquisitions (8%),

3.8 Impact of financial constraints and capital structure on M&A decisions (6%),

3.9 IPOs and deal structures and their impact on M&A (6%),

3.10. Antitakeover strategies (5%),

3.11 What happens when firms merge? Evidence on market competitiveness, restructuring, synergies and misevaluation (13%),

3.12 Merger waves and macro conditions affecting mergers (6%), and

3.13 Research on international and cross-border M&A (14%).

Much of the recent work represents straight-forward extensions of earlier research, such as the impact of characteristics of the board of directors on acquiring firm stock returns, but there is also much that is new. An important trend, perhaps not surprisingly, is that much recent research is motivated by newly available or improved data. While the distribution of articles across the various classifications is fairly uniform, the above list provides some insights on what people are studying. In our reading of the literature, international mergers emerged as a significant area for new research, due to both their importance and improved data availability. The international research provides confirmation to many of the existing relations observed in the US market but also offers a means to test the importance of the impact of regulatory, economic and political factors that vary cross countries. We also observe a tremendous increase in research that focuses on the importance of networking and relationships between board members, CEOs and various financial advisors, again relying on relatively new databases. We offer the classification scheme to our readers as a way to frame their thinking on research on M&A and to help shape extensions and innovations in the research on this important and dynamic economic phenomenon.

Our goal in this survey is to provide a source for examining what research has found in the area of mergers and acquisitions and to prompt the reader to ask new and important questions to further our understanding of mergers and acquisitions. The most important finding in the early

research on M&A was that there are wealth gains, on average, in M&A transactions. Most of the research since the 1980s has, at its most basic level, tried to explain the source of these wealth gains. In addition to our survey of the literature since 2011, we provide perspective on the historical development of the study of M&A, offer caveats to remember when interpreting the research of others or designing one's own research and note the importance of incrementalism in our overall understanding of the value of research in M&A.

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