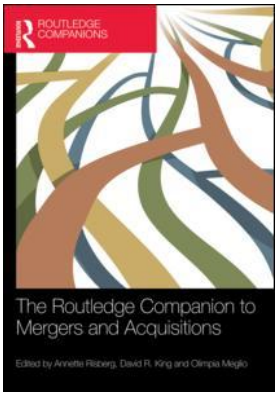

The Routledge Companion to Mergers and Acquisitions

Annette Risberg, David R. King, Olimpia Meglio

Event-study methodology in the context of M&As

Publication details
https://test.routledgehandbooks.com/doi/10.4324/9780203761885.ch13
Joseph S. Harrison, Mario Schijven
Published online on: 06 Jul 2015

13

Event-study methodology in the context of M&As

A reorientation

Joseph S. Harrison and Mario Schijven

Introduction

Event-study methodology uses relatively short time frames to assess stock market reactions to discrete events, demonstrated by abnormal stock returns—or the difference between expected and actual stock prices (Cording *et al.* 2010; Haleblian *et al.* 2009). Initially developed in the field of financial economics in the late 1960s (Fama *et al.* 1969), event studies have become a ubiquitous method for measuring the performance effects of mergers and acquisitions (hereafter "M&As" or "acquisitions"). Indeed, while numerous methods have been used to assess the performance effects of acquisitions, reviews and meta-analyses have shown that event studies are the most dominant (Cording *et al.* 2010; Goranova *et al.* 2010; Haleblian *et al.* 2009; King *et al.* 2004).

Despite its prevalence in M&A performance research, scholars hold divergent views on the validity of event-study methodology. While some highlight its ease of use and precision in identifying responses to a particular event (Haleblian *et al.* 2009; McWilliams and Siegel 1997), others argue that, insofar as it is used with the intent to measure actual or objective performance, it is based on overly simplistic assumptions that fail to account for organizational, social, and market complexities (Cording *et al.* 2010; Oler *et al.* 2008; Schijven and Hitt 2012). In this chapter, we provide an overview of event-study methodology, including its underlying assumptions from financial economics, before turning to its limitations through a discussion of the growing body of work—spanning behavioral finance, economic sociology, and social psychology—that has developed an increasingly critical stance toward the methodology. Building on this critique, we then outline various recommendations to improve the application of event-study methodology in M&A performance research. We also argue for a reorientation in the use of event studies, as well as other methodologies in the more general M&A context (i.e. beyond just M&A performance), which opens up unique possibilities for future work and, in particular, for research on the behavioral mechanisms underlying markets and investor decision making.

Event-study methodology: assumptions and critiques

Event-study methodology has been widely used in accounting, finance, and management to measure the performance effects of corporate decisions and events, including acquisitions

(McWilliams and Siegel 1997). Its wide use is based on several key benefits, such as its relative ease of use and the accessibility of market data (McWilliams and Siegel 1997; Oler *et al*. 2008). As primary measures, event studies only require stock market returns for the focal firm(s) and benchmark returns for comparison that are readily available or easily computed based on data from public exchanges (Oler *et al*. 2008). Further, event studies typically use short time frames (i.e. "event windows") so as to minimize "noise" from extraneous variables or events (Cording *et al*. 2010; Haleblian *et al*. 2009; Oler *et al*. 2008), which leads to simpler study designs than other statistical methods and which can greatly alleviate concerns about endogeneity, such as reverse causation and spurious correlation. Overall, event studies are simple to use, widely applicable, and relatively powerful statistically in gauging event-specific market reactions.

At the same time, event-study methodology rests on various assumptions that must be understood and properly applied in order to generate valid findings, and that have been met by harsh criticism across the social sciences. In this section, we highlight the efficient markets hypothesis (EMH) as the primary underlying assumption for the use of event studies in the context of M&As. We outline its origins from financial economics and then discuss various arguments from behavioral finance, economic sociology, and social psychology that challenge the traditional financial economic perspective and the usefulness of event-study methodology as a means of measuring acquisition performance.

Financial economics: the underlying assumptions of event-study methodology

Event-study methodology stems from financial economics and is predicated on a set of assumptions that originated with the efficient markets hypothesis (EMH). In its purest form, the EMH posits that security prices fully reflect all information available to the market. However, as a result of information asymmetry, which reduces the availability of information to market participants, even proponents of event studies admit that this is an "extreme null hypothesis" that is not to be taken literally (Fama 1970). As a consequence, variations of the EMH have been outlined and may be categorized as one of three forms: weak form, semi-strong form, and strong form. In the weak form, prices reflect only historical information; in the semi-strong form, prices adjust to reflect other information that is publicly available besides historical information (e.g. announcements of annual reports, annual earnings, stock splits, new securities); and in the strong form, prices reflect instances in which some investors or groups have monopolistic access to relevant information (i.e. private information) (Fama 1970).

Research on M&A performance has typically used the semi-strong form of the EMH to formulate arguments about the performance effects of acquisitions. Abnormal returns upon (or surrounding) the dates of acquisition announcements are argued to be the best available estimates of the net present value of the merging firms' future cash flows (Haleblian *et al*. 2009) and are therefore used to assess the value created or destroyed by M&As (Cording *et al*. 2010). This argument depends on three underlying assumptions (see Shleifer 2003). First, investors are assumed to value stocks rationally, meaning that stock prices quickly and accurately adjust to new information. Second, to the extent that investors are not rational, irrational decisions surrounding trades are assumed to be made at random, thus neutralizing their overall effect on stock prices. Finally, to the extent that irrational trade is non-random, rational arbitrageurs are assumed to eliminate its influence on stock prices by simultaneously buying up the mispriced stock and shorting a substitute stock, thereby correcting the mispricing. However, these assumptions do not hold in many (perhaps most) settings, which leads to potential issues surrounding the validity of results from event studies, particularly in the context of M&As.

Several alternative perspectives have challenged the theoretical assumptions of efficient markets, including behavioral finance (e.g. Shiller 2003; Shleifer 2003), economic sociology (e.g. Rubtsova *et al*. 2010; Zajac and Westphal 2004), and (albeit more implicitly) social psychology (e.g. Petty and Cacioppo 1986; Petty and Wegener 1999). Each of these perspectives generally considers the EMH to be overly simplistic (e.g. Hirshleifer 2001, Hunter and Coggin 1988), not accounting for the complexities of human judgment and decision making inherent in investor responses. The combination of issues related to the major underlying assumptions indicates serious limitations to the use of event-study methodology in M&A performance research because, if they are violated, empirical results based on the methodology will be biased and imprecise (McWilliams and Siegel 1997). Below, we briefly outline theoretical critiques from each literature and discuss their implications for the use of event-study methodology in M&A performance research.

Behavioral finance: limits to arbitrage and deviations from rationality

The field of behavioral finance emerged in response to market anomalies, which undermine the traditional financial economic perspective (e.g. high trading volumes, high volatility, and stock market bubbles), and suggests that market phenomena can be better understood by relaxing the assumption of investor rationality (Barberis and Thaler 2003; Lawrence *et al*. 2007). Relevant to the use of event studies in M&A performance research, Barberis and Thaler (2003) outline the two major "building blocks" or components of behavioral finance as limits to arbitrage and psychological deviations from rationality. The first component challenges the assumption that mispricing leads to attractive investment opportunities that arbitrageurs will exploit, since arbitrage involves risk and cost. While the EMH assumes that arbitrage offers riskless profits at no cost, behavioral finance argues that risks and costs deter investment in even obviously mispriced securities. For example, limited time and funds as well as the absence of equivalent securities may reduce the ability and/or desire of investors to exploit mispriced securities (Oler *et al*. 2008; Shleifer and Vishny 1997). Consequently, mispricing may remain unchallenged, undermining the efficiency of the market.

The second component of behavioral finance suggests that various psychological constraints reduce investor rationality and, therefore, market efficiency. March and Simon (1958) refer to this phenomenon as bounded rationality, whereby an individual's ability to make rational decisions is constrained by limitations in cognitive capacity—that is, the ability to gather, process, and interpret relevant information. Bounded rationality is further exacerbated by complex situations such as M&As (Oler *et al*. 2008), suggesting that investors will be likely to utilize various heuristics that introduce biases and can lead to suboptimal investment decisions (see Das and Teng 1999; Duhaime and Schwenk 1985; Schwenk 1984, 1985). Examples of these biases include prior hypotheses bias, where individuals continue to make decisions based on previously held beliefs, despite contrary evidence (e.g. Levine 1971; Pruitt 1961; Staw 1976; Wason 1960); confirmatory and contradictory biases, where individuals overestimate the value of confirmatory evidence or undervalue contrary evidence, respectively (Kozielecki 1981); and representativeness bias, where individuals incorrectly associate information with a particular phenomenon (e.g. Steinbruner 1974; Tversky and Kahneman 1974). These and other biases compromise investor rationality and weaken the ability of event-study methodology to reflect the actual value created or destroyed by events like M&As.

A major reason why psychological constraints limit the ability of abnormal returns to reflect actual value creation or destruction is that acquisitions are highly complex. Specifically, while acquisitions may affect multiple areas of the focal firm(s) (Haspeslagh and Jemison

1991), simplifying heuristics fail to account for the widespread and complex effects of M&As. Additionally, research has shown that markets are limited in their ability to predict future value. For example, limiting performance measures to stock market data ignores the effect of M&As over time and on other potentially relevant measures of firm performance, such as accounting measures (King *et al*. 2004). Oler and colleagues (2008: 151) supported this idea in the context of horizontal acquisitions, where they showed that "positive initial market response to an acquisition announcement is contradicted by negative long-run post-acquisition returns, suggesting that the initial response is incorrect and that the error is rectified later." Together, these arguments threaten the assumption of market efficiency underlying event-study methodology and suggest that stock market reactions to M&As are more representative of investor perceptions than actual value creation.

Economic sociology: performativity and the social construction of markets

According to an economic sociological perspective, one of the major critiques of the financial economic approach relates to the performativity of markets. In the social sciences, performativity refers to the idea that scientific theories, models, and statements are "actively engaged in the constitution of the reality [they] describe" (Callon 2007: 10). Economic sociologists describe the performativity of markets by suggesting that economists create and influence markets. MacKenzie (2006: 1) summarizes the concept this way: "To claim that economics is performative is to argue that it *does* things, rather than simply describing (with greater or lesser degrees of accuracy) an external reality that is not affected by economics." In the context of financial markets, this translates into the idea that economists and economic actors (e.g. regulators, traders, and organizations) take an active role in shaping the components of financial markets and the laws regulating them. For example, financial derivatives such as stocks and bonds do not exist outside of the financial market, nor can they operate independently of the rules established to govern their trade (Herrmann-Pillath 2010).

Performativity becomes problematic for the underlying assumptions of event-study methodology because it suggests that financial markets are socially constructed (Samuels 2004) and are therefore subject to the judgments and biases as well as the decisions of (often irrational) economic actors embedded within them. Indeed, while markets may follow natural laws, individuals and organizations *create* those markets, and therefore determine which laws apply. Specific to financial markets, economic sociology suggests that price, volume, and volatility are all affected by networks of social interactions (Granovetter 1985; Preda 2007; White 1981). The distribution and interpretation of information through these networks have serious implications for market efficiency. For example, Zuckerman (2004) showed that earnings announcements for firms in less well defined industries were associated with higher trading volume and price volatility, implying that the market is less efficient at processing information on such firms. Further, Zajac and Westphal (2004) argued that reactions to a particular event, such as stock repurchase plans, are affected by prevailing institutional logics and the degree of acceptance of the event itself. Such logics are likely to bias investment decisions in favor of or against particular companies or events, depending on their legitimacy.

Oler and colleagues (2008: 159) build on this notion by arguing that "a response based on sentiment is more likely to occur when the underlying event is complex or otherwise difficult to understand (i.e. occurs irregularly or has many elements of uncertainty)." Again, given the complexity of acquisitions, institutionally driven investment decisions are even more likely for M&As than for other, less ambiguous events. Further, international acquisitions pose unique problems for event-study methodology because M&As involving multinational corporations or firms

headquartered in different countries are often listed on different stock exchanges (Park 2004). Abnormal returns are likely to vary across different exchanges based on institutional logics governing those exchanges in their countries of origin. In combination, and similar to the arguments from behavioral finance, these arguments undermine market efficiency and suggest that abnormal returns reflect investor perceptions of performance, rather than actual acquisition performance.

Social psychology: applying the elaboration likelihood model to financial markets

Similar to the economic sociological perspective, social psychology suggests that individuals tend to behave socially rather than depending solely on economically rational calculations. The basis of this argument lies in theory surrounding the elaboration likelihood model (ELM) developed by Petty and Cacioppo (1986). Initially developed as a way to understand the processes underlying persuasion, the ELM distinguishes between two separate "routes" that individuals can take to make decisions—the central route and the peripheral route (Petty and Cacioppo 1986; Petty and Wegener 1999). While the central route involves first-hand investigation and analysis of relevant information (Petty *et al.* 2009), the peripheral route relies on an expertise heuristic (e.g. Chaiken 1987). This latter approach is taken when individuals themselves are unable to access necessary information, leading them to assume that those with access to the information will generally make correct decisions (Tormala *et al.* 2006).

Although the ELM was not initially intended for application to financial markets, Schijven and Hitt (2012) suggest that the distinction between central and peripheral routes has important conceptual implications for the use of event studies, since information asymmetry in financial markets may lead investors to use a peripheral route when making investment decisions. Such a tendency would lead to systematic deviations from rationality, such as listening to rumors or imitating other traders (e.g. Oler *et al.* 2008; Preda 2007; Shiller *et al.* 1984), as evidenced by stock market bubbles and other phenomena indicating market inefficiency (Schijven and Hitt 2012). Here again, due to the complex nature of acquisitions, such behavior becomes highly likely. Since acquisitions tend to entail high information asymmetry between managers and investors (Schijven and Hitt 2012), investors are likely to depend on cues from the social environment, including managers, when deciding how to react to an acquisition announcement. As with the other perspectives outlined in this section, then, a social psychological approach suggests limitations to the financial economics perspective and threatens the accuracy of event studies in gauging acquisition performance.

Conclusions from the behavioral perspective of financial markets

Ultimately, behavioral perspectives of financial markets from behavioral finance, economic sociology, and social psychology undermine the basic assumptions of investor rationality underlying the EMH. In the M&A context in particular, which is marked by high complexity and information asymmetry, boundedly rational investors are likely to use individual and social-based heuristics that introduce bias and lead to suboptimal results. As a consequence, depending on investor reactions to gauge the value of M&As becomes problematic. Further, conceptions of markets as performative and evidence of the use of an expertise heuristic in investment decisions hold serious implications for the usefulness and validity of event-study methodology. Overall, while event studies have very apparent benefits, which account for their widespread use, they entail several crucial theoretical limitations that become even more apparent when used to study M&A activity. Given this, we argue that a re-evaluation of event-study methodology—and of the construct of acquisition performance more broadly—is critical to the future of M&A research.

Refining the construct of aquisition performance

The concerns associated with event studies as a method for measuring acquisition performance indicate the need to re-evaluate and refine the construct of acquisition performance. Further, the very nature of acquisitions, as highly complex events that involve various stakeholders and stages, suggests that a single measure cannot capture all of the intricacies of M&A performance for all acquisitions across different stages. As a consequence, some scholars have argued against the use of an overall construct of acquisition performance (see Cording *et al*. 2010; Oler *et al*. 2008; Meglio and Risberg 2011). For instance, Meglio and Risberg (2011: 431) contend:

> Our conclusion is that it is not possible to talk about M&A performance as if it were a universal construct because it is sensitive to and contingent upon contextual conditions. In order to understand what M&A performance is, one must take into consideration the scope conditions as well the conceptualization and operationalization of the construct. The different performance measures tell different stories about performance for different audiences.

We reiterate this argument. Rather than converging on a single definition of acquisition performance, extending the nomological network of M&A performance and more consistently using supplemental or alternative measures (other than abnormal returns) has the potential to increase precision in M&A performance research and broaden our understanding of acquisitions (Cording *et al*. 2010). At the same time, it is critical that researchers choose measures that are aligned with the theoretical dimensions of the particular research question of interest.

We propose that one of the most effective ways to decide on an appropriate measure of acquisition performance is to align the research question of interest with the stage of the acquisition. Table 13.1 outlines four basic stages of an acquisition—selection, transaction, integration, and post-acquisition management (hereafter just "management")—including various activities that may be carried out in each. In general terms, we propose that the selection and transaction stages are associated with the *potential* of the deal to create synergy for the merging firms, while the integration and management stages are associated with the *realization* of that synergistic potential. This distinction parallels that between strategic and organizational fit described elsewhere in the literature (e.g. Barkema and Schijven 2008). Whereas the synergistic potential of an acquisition is based on strategic fit, in terms of resource similarity or complementarity (Harrison *et al*. 1991), the realization of that synergy depends more on organizational fit, or the extent to which the acquired firm is integrated effectively into the acquirer's organization (Haspeslagh and Jemison 1991; Jemison and Sitkin 1986).

Using this conceptualization, we argue that abnormal returns are often appropriate to assess synergistic potential, but alternative measures should be used for later stages in which the realization of that synergy is assessed. In the former case, however, researchers must still subscribe to the EMH, which may have limitations based on some of the issues already described. Therefore, we also propose that researchers consider using alternative measures of acquisition performance even in the early stages of an acquisition in order to properly assess the theoretical constructs related to their research question(s). Below we discuss several specific recommendations to improve upon the operationalization of "performance" in the context of M&As. We begin by outlining various recommendations to improve the use of event studies in M&A performance research, after which we shift our attention to alternative methods and measures (i.e. other than event studies) that should be considered when performing research on M&A performance.

Table 13.1 Acquisition stages and performance

	Stage			
	Selection	*Transaction*	*Integration*	*Management*
Activities	• Identification of targets • Tender offer	• Negotiations • Deal structure and valuation • Completion of deal	• Post-acquisition integration • Knowledge transfer • Systems conversion	• Increased (decreased) economic performance • Increased (decreased) market share • Acquisition survival
	Performance indications Synergistic potential (Strategic fit)		*Realization of synergistic potential (Organizational fit)*	
Examples of appropriate research questions	• What is the potential value of the deal? • What are investor perceptions of the potential value of the deal? • How well aligned are the merging firms in terms of strategic fit? • How do the various characteristics of the deal, firms involved, and/or environment affect the perceived future value of the deal?		• What is the actual value of the deal? • What were the performance effects of the acquisition? • How well are the merging firms aligned in terms of organizational fit? • How did the various characteristics of the deal, firms involved, environment, and/or integration process affect the actual value created by the deal?	

Refining event studies in M&A performance research

The various critiques of event-study methodology in M&A research do not mean that abnormal returns are altogether unsuitable as a measure of M&A performance; rather, they represent limitations to their applicability. In particular, investor irrationality and information asymmetry, which contradict the assumptions of the EMH, suggest that abnormal returns should not be used as an indicator of the actual value created from M&A activity. Instead, such returns should explicitly be interpreted for what they are: investors' perceptions of the *potential value* of the acquisition. This distinction between potential and actual value is evidenced in the extant M&A literature. For example, Oler and colleagues (2008) found inconsistencies between the initial market reaction to horizontal acquisitions and long-run returns: whereas the initial reaction was positive, long-run post-acquisition returns were negative. Based on this information, they concluded that abnormal returns should be treated as a reaction to new information, but not as a measure of actual performance. Using a similar argument, Zollo and Meier (2008) state that researchers using event studies should specify their dependent variable as the "expectation about firm performance" rather than actual performance.

We extend this logic to argue that abnormal returns are valuable insofar as they are used to measure *potential* value or investor behavior. However, abnormal returns do not necessarily help to predict either an acquiring firm's future stock market value or its accounting performance. Returning to the aforementioned concepts of fit, event studies seem relevant to the study of

strategic fit, but less relevant to examining issues of organizational fit, or the ability of firms to realize the potential of resource similarities or complementarities through effective integration. This is not to say that investors are unable to differentiate between integration approaches, but that any pre-acquisition assessment of deal value will always represent potential rather than actual value. For instance, if two deals, D1 and D2, have the same potential value in terms of synergy creation, but the acquiring firm in D1 is better equipped to integrate the target than the acquiring firm in D2, investors are likely to assign greater value to D1 than to D2. Despite the ability of investors to differentiate between integrative capabilities, this assessment still represents *potential*, rather than actual, value.[1] It could even be argued that synergistic potential can never be fully realized because of the inability of organizations to perfectly or optimally integrate an acquired firm (Barkema and Schijven 2008). Ultimately, we advise researchers using event studies in the M&A context to frame any findings of significant abnormal returns in terms of expected value or potential performance rather than actual or realized acquisition performance.

Having established that abnormal returns can be used to measure the potential value of an acquisition, the next step in refining event-study methodology in the context of acquisitions is to refine methodological practices related to the design of event studies so as to increase accuracy and statistical conclusion validity. McWilliams and Siegel (1997) provide detailed steps for implementing event studies that are instructive for any researcher using event studies, including those investigating M&As. We refer readers to their paper for detailed descriptions of each step; however, we suggest that those using event-study methodology in the context of M&As pay particular attention to three points: 1) the alignment between theoretical arguments and empirical measures, 2) selection of an appropriate event window, and 3) sampling techniques to increase validity and generalizability.

First, justifying the use of event-study methodology based on the theoretical motivations of the study is critical to the validity of conclusions drawn from this method. Unfortunately, in the management literature, a disconnect often exists between the theoretical construct of interest and the measure used to assess that construct (Cording *et al.* 2010). Increasing the emphasis placed on the alignment between theoretical constructs and their operationalizations will increase the accuracy and generalizability of findings from event studies. Cording and colleagues (2010: 18) suggest one way to accomplish this: "Ideally, researchers would articulate a theoretical link between the explanatory variables being studied and the theoretical domain of their selected acquisition performance measure." Combining this idea with our discussion surrounding the various stages of the acquisition process, we propose that, when the independent variables of interest have to do with potential synergy (e.g. acquirer and target *pre-acquisition* characteristics, such as acquisition experience, acquirer profitability, or target profitability), event-study methodology may be appropriate, whereas, when they have to do with actual value creation (e.g. aspects of integration, such as top management team turnover or transfer of resources), other methodologies or measures should be employed. In the following section, we provide further guidance on this point by suggesting various typologies that could be used to determine appropriate alternatives to abnormal returns as measures of M&A performance, given the theoretical motivations of a particular research study.

Second, choosing an appropriate event window, justifying its length, and then reducing the potential for confounding effects are each critical to generating interpretable results. As a general rule of thumb, when abnormal returns are used to measure reactions to an announcement, a window of three to seven days is generally considered to be appropriate. While shorter windows are common in research (King *et al.* 2004), we urge M&A researchers to be more conservative in their choice of event window. In fact, unless there is good reason to use a shorter window, we suggest that researchers should select a window towards the longer end of this range (i.e. seven days). This is necessary in order to account for the complex nature of acquisitions, since relevant

information is not likely to be immediately captured in stock prices. At the same time, ensuring that the chosen window makes sense within the context of the specific acquisition and then controlling for extraneous events that could affect prices within that window are necessary to ensure that any abnormal returns may be reasonably connected to the acquisition. For instance, researchers should use non-equivalent comparison groups of similar firms in the same industry to reduce industry effects. Such controls become particularly important as event windows are increased, since more confounding effects may be introduced, the longer the period of investigation. Care in designing these aspects of the study, then, increases the explanatory power and validity of any significant findings. As a final suggestion related to selecting an event window, researchers could also perform sensitivity analyses, using several different event windows and examining effect sizes and R-squared statistics as a first step towards determining the most appropriate window. Of course, after performing such an analysis, it remains important to be able to justify the event window based on theoretical reasoning.

Finally, as with any methodological design, sampling procedures are an important consideration when designing event studies on M&As, since they affect both the internal and external validity of empirical results. We suggest three common sampling problems that deserve particular attention in the M&A literature. First, while there are recognized subgroups of M&As, most researchers lump acquisitions together in large cross-sections when compiling a sample. Based on a year-long study of M&A activity, Bower (2001: 94) found that "the thousands of deals that academics, consultants, and businesspeople lump together as mergers and acquisitions actually represent very different strategic activities." He summarized these activities into five distinct subgroups based on the rationale for M&A activity (i.e. overcapacity, geographic roll-up, product or market extension, R&D, and industry convergence) and essentially argued that disentangling these types can assist managers in determining whether and how to execute M&As more successfully. In a similar way, accounting for these subgroups in research designs (e.g. through moderation analysis or the use of controls) can assist scholars in clarifying the effects of all kinds of independent variables on acquisition performance and other M&A-related dependent variables. Second, we believe that too many M&A studies use unjustifiably small samples in relation to the sweeping conclusions that they draw. While we admit that it may be difficult to gather data on large samples of acquisitions, using bootstrapping or otherwise increasing the sample size is important for ensuring robust and generalizable results. Third, as with much of the rest of the strategy literature, most M&A studies are limited to public firms in the U.S., which represent just a subset of all M&As. As a result, the existing literature is somewhat limited in its generalizability. The more consistent inclusion of international and/or private M&As would therefore increase the relevance of findings in the M&A literature.

In addition to the steps outlined by McWilliams and Siegel (1997) that we expanded upon above, the complex nature of acquisitions requires additional methodological practices to ensure accurate and generalizable results. For instance, some scholars, particularly in the field of management, argue that accounting measures should be used to supplement abnormal returns when assessing acquisition performance (e.g. Oler *et al.* 2008; Zollo and Meier 2008). While we believe that using multiple measures can have a bolstering effect up to a point, we advise researchers to choose additional measures carefully, so as to ensure consistency with the theoretical question under investigation. If the measures used do not assess the same theoretical construct, they may show contradictory results or otherwise undermine the study. To use multiple measures appropriately, researchers should define whether the measures are being used to describe either *different* theoretical dimensions of the acquisition or various facets of the *same* theoretical construct. Once this is established, multiple measures can add great depth to M&A studies. For example, a researcher may use event-study methodology to assess the strategic fit or synergistic potential of merging firms and compare that measure to an

accounting measure (e.g. return on assets) to assess the organizational fit of those firms and the realization of that potential. We will discuss several additional measures that may be implemented as alternatives or supplements to abnormal returns later in this chapter.

As a final suggestion to refine the use of event studies in the broader research on M&A, beyond refining methodological procedures, and consistent with Oler and colleagues (2008), we recommend that researchers strive to answer a wider variety of questions with event-study methodology than have been examined in the past. Although the common implementation of this method has been to measure acquisition performance, we reiterate that short-window event studies should be used to answer more behavioral questions. We will discuss this in greater depth later in this chapter; however, an obvious question based on the inconsistencies found between initial market reactions and long-term market returns would be: When does the market "get it right"? In combination, we believe that these recommendations will simultaneously increase the accuracy and validity of results from event studies and lead to interesting lines of inquiry for future M&A research.

Refining measures of acquisition performance

Shifting the focus from improving the use of event-study methodology in M&A performance research, there are a number of other steps that researchers can take to improve the more general construct of acquisition performance—that is, beyond just abnormal returns. To begin, as touched on earlier, researchers should strive to align the measures they use with the theoretical dimensions of the research question of interest. Acquisition performance is a multidimensional construct with different meanings at different levels of analysis, at different stages, and for different stakeholders. It seems intuitive, then, that different measures should be used to assess acquisition performance within different theoretical contexts.

Past research provides a good foundation for conceptualizing the various aspects of firm performance, in general, as well as M&A performance, specifically, by outlining classification schemes to organize the numerous possible performance measures (e.g. Carton and Hofer 2006; Cording *et al.* 2010; Meglio and Risberg 2011; Venkatraman and Ramanujam 1986; Zollo and Meier 2008). For instance, Cording and colleagues (2010) divide acquisition performance measures into four domains—an announcement effect domain, a long-term stock performance domain, an accounting-based domain, and a managerial self-assessment domain. We refer the reader to their paper for an explanation of the differences between these domains. In general, their analysis suggests that the construct of acquisition performance be expanded to incorporate more than just the value captured by the acquiring firm. Further, these and other typologies are indicative of the ways in which the construct of acquisition performance may be expanded in order to better understand the widespread effects of acquisitions.

One specific way to expand the construct of acquisition performance is to determine which measure of acquisition performance is most relevant based on level of analysis (Meglio and Risberg 2011; Zollo and Meier 2008). For instance, Zollo and Meier (2008) propose a taxonomy of acquisition performance across three levels of analysis—task performance, acquisition performance, and firm performance—in the short term and the long term. According to their taxonomy, the task level relates to the integration process, the transaction level to value creation in terms of cost efficiencies or revenue growth, and the firm level to the performance of the combined entity over and above transaction-level performance. The authors also provide an important warning when they state that "any model of either transaction- or firm-level performance that does not include process-level performance is in danger of being seriously

underspecified" (Zollo and Meier 2008: 72). Using measures at the level of analysis and at least one level below, then, is a good practice for ensuring robust results.

Building on the typologies proposed by Cording and colleagues (2010), Zollo and Meier (2008), and others, we outline two alternative conceptualizations of acquisition performance measures as a way to more clearly align the theoretical context of the study with those measures. In doing so, we not only suggest the need for different measures of acquisition performance based on the given theoretical context, but also argue that these measures may be categorized differently depending on the research question of interest. In other words, there is more than one way to conceptualize the taxonomy of acquisition performance measures, and determining which taxonomy fits with a given set of research goals is an important first step towards deciding on an appropriate measure.

First, M&A researchers could benefit from aligning measures of acquisition performance to specific desired outcomes or goals that likely differ from acquisition to acquisition (Bower 2001). While one organization may engage in an acquisition in order to increase market share, another may desire to encourage innovation, and another may seek to vertically integrate operations and cut costs. Therefore, if acquisition performance is only assessed using, say, abnormal returns, empirical analysis of M&As is likely to overlook other important indicators of success. For example, an acquisition may not immediately affect market (or even accounting) returns, but may synergistically improve the generation of new products or services post-acquisition. Given the potential variation in strategic goals, it may often be appropriate to align measures of acquisition performance with the strategic goals of the particular acquisitions under investigation. As a starting point, we propose a simple conceptualization of acquisition performance measures based on three categories of outcomes—economic, strategic, and integrative—which may each be assessed differently depending on the stage of the acquisition (see Table 13.2).

We define economic performance as performance related to the financial or economic benefits of M&As, strategic performance as the method through which economic performance is enhanced or any desired synergies above and beyond pure economic performance, and

Table 13.2 Acquisition performance measures by desired outcome

		Stage	
		Short-term (Selection and transaction)	*Long-term (Integration and management)*
Outcome	**Economic performance**	• Insider expectations • Advisor expectations • Analyst projections	• Accounting performance • Long-term market returns • Market share
	Strategic performance	• Premium paid • Market reaction (abnormal returns)	• Innovative performance • Brand enhancement/ weakening • Market share
	Integrative performance	• Insider expectations • Advisor expectations	• Acquisition survival • Employee retention • Employee satisfaction levels • Customer retention

integrative performance as the ability of the merging firms to attain a desired level of integration. Of course, these categories are not mutually exclusive. Indeed, as evidenced by the measures we propose for each category, there may be some overlap in theoretical constructs and possible measures to assess those constructs. As a mode for simplifying decision making, we believe that this typology provides a clear way to distinguish between measures, particularly within different stages of the acquisition process. In the short term, each of these benefits can be gauged using survey data of insider (i.e. manager) or advisor (i.e. consultant firm) expectations. In addition, potential economic and strategic performance may be reasonably gauged using abnormal returns, analyst projections, or the premium paid by the acquiring firm. In the long term, the realization of those benefits can be measured using more distinct measures, such as accounting or long-term market data for economic performance; changes in innovation, brand recognition, or any number of other strategic goals for strategic performance; and acquisition survival, or employee or customer retention for integrative performance. Further, multiple measures or categories of measures may be utilized depending on the theoretical contexts so long as those measures are appropriately justified.

Second, researchers may align measures of acquisition performance with the specific stakeholders of interest. Just as goals may differ between acquisitions, performance means different things to different stakeholders. For example, while managers may want to increase economic performance, innovation, and the like, investors may simply want to increase stock returns, and employees may desire more latitude in their job or additional opportunities for growth. Meglio and Risberg (2010: 91) hint at this idea when they state, "M&As are not monolithic and isolated events in organizations as they span long periods of time and affect people both within as well as outside the merging firms." Similarly, Meglio's chapter in this volume demonstrates that acquisitions not only affect shareholder interests, but also put at risk the interests of various other stakeholder groups. According to her perspective, acquisition performance may be conceptualized as a "game" between stakeholders both within and outside the firm with varying levels of relative power and diverse interests, which all have an effect on acquisition outcomes (Meglio, 2015). Using different measures based on the stakeholders involved in the research context, then, also seems relevant to the development of M&A performance research and the construct of acquisition performance. Here again, we provide a starting point for such a taxonomy by conceptualizing acquisition performance for the firm itself as well as across three major groups of stakeholders—management, investors, and other stakeholders—in the short and long term (see Table 13.3).

In this case, the proposed measures are fairly intuitive, based on the interests of the firm or the respective stakeholder; however, care should still be taken to ensure that different measures are used to assess the potential or expected impact versus the actual impact on the firm or each stakeholder. For example, the potential impact of an acquisition on employees may be assessed using surveys gauging turnover intention or satisfaction, while the actual impact may be assessed using actual turnover or satisfaction levels across time. Regardless of the measure of acquisition performance that is used, it is most important for researchers to clearly specify the stakeholders of interest and justify the connection between the measure and the stakeholders' interests.

As a final point of guidance for research assessing the performance effects of M&As, researchers would do well to implement primary data collection techniques in order to assess performance metrics. Research indicates that primary data is seriously underrepresented in work on M&As (Zollo and Meier 2008). The heavy emphasis on archival data limits theory development, since proxy measures are restricted in their ability to explain the "why" behind a particular

Table 13.3 Acquisition performance measures by firm or stakeholder interests

		Stage	
		Short-term (Selection and transaction)	*Long-term (Integration and management)*
	Firm	• Analyst projections • Premium paid	• Accounting performance • Brand enhancement/ weakening • Market share
Stakeholder	**Managers**	• Insider expectations • Advisor expectations	• Goal realization (surveys) • TMT compensation • TMT retention
	Investors	• Market reaction (abnormal returns)	• Long-term market returns
	Other stakeholders	• Employee surveys (e.g. turnover intentions, satisfaction) • Customer reactions (market surveys)	• Employee retention • Employee satisfaction • Customer retention

phenomenon. However, surveying managers, advisors, investors, or other stakeholders could improve the precision of theory related to M&As. For example, since not all acquisitions have the same goals, asking more detailed questions about the degree of realization of particular benefits (e.g. innovative, economic) can help researchers understand which measures are most applicable to a given acquisition.

Acquisitions, event studies, and investor behavior

As an alternative to refining the construct of acquisition performance, M&A research would also benefit by looking at event studies as a means of examining alternative dependent variables, particularly related to investor behavior and financial markets. Krier (2005: 64) provides conceptual motivation for performing such an examination in his statement that "financial markets are remarkably under-conceptualized, more often taken as a starting assumption than as an object of study." Based on the discussion already provided, this is clearly the case in the context of M&As, where financial markets are simply the setting used to examine performance effects of M&As. Yet, using M&As as the empirical setting to examine dependent variables *other* than acquisition performance could greatly enrich the behavioral field of study. In this section, we propose two ways in which using M&As as an empirical setting can enhance behaviorally oriented research—first, by using event studies on M&As to test theories on investor decision-making processes and second, by using qualitative studies on M&As to better understand the mechanisms underlying those processes.

Event studies and investor behavior

Among the most obvious, yet vastly underexplored, behaviorally oriented applications of event-study methodology in the M&A context is the study of investor reactions *for their own sake*, rather than as a "black-box" measure of performance. Investor reactions are the underlying

mechanism through which capital markets operate. Prices rise and fall based on investment decisions, which are driven by investor perceptions. Acquisitions provide a convenient setting in which to examine investor decision-making processes because of the causal ambiguity and uncertainty that they entail. Event studies can be helpful in this analysis insofar as abnormal returns are seen for what they are: a measure of stock market reactions that is based on human perception and, as such, offers a glimpse into investors' boundedly rational decision-making processes. For example, Schijven and Hitt (2012) indicate that relaxing the assumption of investor rationality may allow researchers to examine decision-making processes—including perceptions, decisions, and actions—as the dependent variable of interest rather than just the performance outcomes of M&As. The authors submit that such an application could inform future work to integrate a framework classifying categories of signals for investor reactions. Such applications suggest that, while weaknesses in the assumptions underlying event-study methodology may at first appear to be limiting, they may also provide promising avenues for theoretical or philosophical development.

A strong example of the application of event studies in M&A to behavioral research is Louis and Sun (2010). In their study, they use abnormal returns to demonstrate the differential market response to Friday and non-Friday merger announcements—that is, that investors are less attentive to Friday announcements. They further show that, aware of this, managers tend to announce "bad" mergers more consistently on Fridays. While they use event-study methodology in the context of M&As, then, their primary research question and contribution are not associated with acquisition performance, but are strongly related to the behavior of investors and managers. Future research could employ similar methodology to examine a broad range of behavioral-related research questions. Below we discuss four specific possibilities: the accuracy of capital markets in assessing potential value, differences in behavior across investor types, the ability of markets to learn, and market reactions at times other than the announcement date.

First, we have already established that short- and long-term market returns related to M&A activity are often inconsistent. Extending the logic of subjectivity to this phenomenon could lead to various questions examining the accuracy of capital markets. For example, Oler and collegues (2008) suggest that researchers examine what forces render markets more or less efficient. To answer such questions, we recommend that researchers compare multiple independent event windows (i.e. short vs. long) to determine the conditions under which long-term returns are either consistent or inconsistent with short-term returns. Assessing market returns in this way would be an effective use of the limitations outlined in the behavioral perspective of capital markets and could greatly enhance theory on market efficiency and investor rationality.

Second, previous research has suggested the existence of two broad types of investors—day traders and institutional investors. Day traders are considered inexperienced investors, while institutional investors are considered experienced investors with specific knowledge about the industries in which they invest (List 2004). Institutional investors include investment banks and corporate investors, which pool funds and make large investments in broad portfolios. Past research in behavioral economics suggests that the decision-making processes of these two types of investors vary dramatically. In particular, List (2003, 2004) suggests that, while day traders are irrational, institutional investors tend to make more economically rational decisions. Based on this finding, comparing investor decisions based on the percentage of the company held by institutional investors versus days traders could increase our understanding of the accuracy of market reactions in predicting acquisition value.

Despite what we have said up to this point, if institutional investors are more accurate in their predictions than day traders, market returns surrounding acquisitions may be more reflective of actual acquisition performance for companies owned by larger percentages of institutional investors than for companies owned by larger percentages of day traders. This line of inquiry could add boundary conditions to the EMH, enabling future researchers using event studies to make a stronger case for the validity of their results. At the same time, we argue that even institutional investors will be limited in their ability to predict value-creation potential. Ultimately, we propose that emphasizing differences in decision-making processes between investor groups and what effect those decisions have on driving market outcomes could lead to an intriguing line of inquiry.

Third, research in the M&A context may also develop behavioral theory by observing market trends for various types of acquisitions over time. In particular, it could help researchers develop theory on the ability of markets to learn. Anecdotal evidence from the conglomerate merger waves of the 1960s and 1970s may help to illustrate this point. Event-study methodology showed that diversifying acquisitions were accompanied by positive market reactions during the 1960s and 1970s (Hubbard and Palia 1999; Matsusaka 1993). However, as the long-term effects of diversification were shown to be negligible (Kaplan and Weisbach 1992; Rumelt 1974, 1982; Ravenscraft and Scherer 1987), the market adjusted, and market valuations of diversifying acquisitions in and after the 1980s have been largely negative (e.g. Bhagat *et al*. 1990; Comment and Jarrella 1995; Rhéaume and Bhabra 2008). This example shows the behavioral nature of markets—that is, they are not only socially constructed, but they also learn and adjust over time. Within the context of acquisitions, this phenomenon may lead to additional research questions that have yet to be examined, such as:

- How do investors respond to various types of acquisitions and how has this changed over the past several decades?
- What types of acquisitions are generally perceived as having the most potential?
- In cases where short-term and long-term returns are contradictory, how long does it take the market to react by adjusting to the particular deal or by reacting differently to similar deal announcements?
- Drawing on the idea that day traders and institutional investors tend to make their decisions differently, how might ownership alter the timetable required for the market to learn?

A final application of event-study methodology in the context of M&As that may potentially inform behavioral theory is to study abnormal returns on dates other than the announcement date. To reiterate, while the EMH assumes that investor reactions to an announcement event are complete and unbiased, behavioral theory shows that investors rarely have all of the information they need to make a perfectly rational decision (Barberis and Thaler 2003; Das and Teng 1999; March and Simon 1958). Further, while the EMH suggests that all information surrounding an acquisition is immediately incorporated into the share price on (or surrounding) the announcement date and that there should be no additional response on the completion date, there are solid behavioral reasons to believe that there may often be abnormal returns on dates other than the announcement date. For example, Schijven and King (2013) examine abnormal returns on the completion date and compare them with the initial abnormal returns on the announcement date, arguing that "implementation planning," as measured by the amount of time that elapses between the announcement and completion dates, could have a significant effect on the perceived value of a deal. For example, if the acquirer spends more time "planning," investors may

be more optimistic about the chances of the deal to succeed. However, if negotiations drag on too long, perceptions about the deal may become more pessimistic. Other similar questions that could be examined relate to abnormal returns surrounding the completion date, the withdrawal date (for mergers that do not take place), or other dates besides the announcement date to develop a more detailed understanding of investor behavior towards acquisitions and other complex phenomena.

Qualitative research on investor behavior

Aside from event studies, other approaches may be taken in the context of M&As to increase our understanding of investor behavior. As mentioned previously, the use of primary data is seriously underrepresented in the acquisition literature. Further, despite the fact that qualitative or ethnographic research may provide deeper insights into the complexities and ambiguities of acquisitions than quantitative methods (Meglio and Risberg 2010), the vast majority of research on M&A is quantitative (Meglio and Risberg 2011). Researchers rarely use qualitative surveys of managers or advisors to gauge acquisition performance. Even fewer researchers have used primary data on investors, and, at least to our knowledge, no qualitative research has been conducted on how investors actually go about making investment decisions related to M&As. We believe that qualitative research could provide extremely useful insights for the development of theory on investor behavior. We specifically propose two avenues that researchers may take to develop this area: the use of case studies and other qualitative methodologies to examine investor decision processes and the use of "fuzzy set" methodology in M&A research to examine investor behavior.

First, while there is some debate regarding the robustness and generalizability of qualitative methodologies, most researchers seem to agree that qualitative research is eminently useful as a first step towards developing theory (Glaser and Strauss 1965). Indeed, qualitative knowledge often precedes quantitative knowledge (Campbell 1988). As Behrens (1997: 135) notes, "numbers themselves are meaningless unless the data analyst understands the mapping process and the nexus of theory and categorization in which objects under study are conceptualized." Further, as a starting point for inductive processes, a "sample of one (or few)" is justifiable (Mintzberg 2005). Extending these ideas to the present discussion, we believe that qualitative research in the context of M&A could greatly benefit the development of theory, particularly related to the comparatively underdeveloped area of investor behavior.

As previously discussed, M&As provide an excellent setting in which to examine investor behavior because of the high level of uncertainty and complexity associated with acquisitions. Within this context, qualitative research is particularly promising as a way to tease out the processes underlying investor decisions because of its unique ability to capture unobservable phenomena. While we acknowledge that gaining access to qualitative data on investor decision-making processes would be difficult, we believe that the potential knowledge that could be gained from such sources would be well worth the effort. As a practical way to approach this area, we recommend that researchers begin with simple case studies on investor decisions before extending those findings to larger samples of investors—both institutional and day traders. Eisenhardt and Graebner (2007) provide an excellent summary of how to appropriately use case studies or multiple case studies to develop robust theory. They emphasize the importance of "precise language and thoughtful research design: careful justification of theory building, theoretical sampling of cases, interviews that limit informant bias, rich presentation of evidence in tables and appendixes, and clear statement of theoretical arguments" (Eisenhardt

and Graebner 2007: 30). We direct the reader to their paper for details on how to generate such research, but reiterate that the proper application of case studies and other qualitative methods in M&A would be useful in answering a broad range of questions related to investor behavior. These include:

- What factors impact the investment decision of different groups?
- What research do investors perform prior to investing and what heuristics are used to judge potential value?
- How do decision-making processes differ among different groups of investors?

Second, in addition to pure qualitative research, fuzzy set methodology also offers opportunities for research in M&A. Fuzzy set theory represents a unique middle ground between qualitative and quantitative methods, overcoming various limitations of each (Ragin 2008). Zadeh (1965) first introduced this methodology to describe mathematical sets with degrees of membership. In contrast to "crisp" sets, which are assessed in binary terms (i.e. either an element belongs to the set, or it does not), fuzzy sets describe situations in which information is incomplete or imprecise and allow for gradation between extremes (Zimmermann 2001). For example, rather than forcing organizations into a binary condition of either "high performing" or "low performing," fuzzy sets would measure the degree of membership in each category. Researchers have used fuzzy set methodologies to deal with complex phenomena across several fields in the social sciences, including the decision sciences, management, political sciences, and sociology (e.g. Amenta *et al*. 1992; Crawford 2012; Cress and Snow 2000; Fiss 2011; Hicks *et al*. 1995; Kogut and Ragin 2006; Krook 2010; Lin *et al*. 2005; Yager and Basson 1975; Vaisey 2007). Associated with decision making, the methodology lends itself well to phenomena related to bounded rationality. Given all that has been presented regarding acquisitions, then, market reactions surrounding M&As seem like a natural context in which to use fuzzy set methodology. Application of the methodology to investor decision making could inform new theory regarding the processes and motivations for investor behavior and, ultimately, broader market reactions and trends.

Summary and conclusions

Event-study methodology has become the dominant method to assess the performance effects of M&As (Cording *et al*. 2010; Goranova *et al*. 2010; Haleblian *et al*. 2009; King *et al*. 2004). Its widespread use is largely due to several key benefits, but also depends on a number of underlying assumptions, which, if they do not apply, may undermine the accuracy and validity of conclusions drawn from such studies. In this chapter, we have outlined these assumptions and their associated limitations, which may present problems for the use of event studies to gauge acquisition performance. We have established that the primary theoretical assumptions stem from the EMH, which, in the semi-strong form, argues that prices adjust to reflect all publicly available information and assumes that investors are rational, trades in the market are made at random, and rational arbitrageurs correct any mispricing that may result from non-random trades (Shleifer 2003). We have also outlined arguments from the growing body of behavioral research—spanning behavioral finance, economic sociology, and social psychology—that criticize the theoretical assumptions of the methodology. In general, these critiques question the assumption of investor rationality and market efficiency and suggest that event studies are more reflective of investor perceptions, or potential value, rather than the actual value created through acquisitions. Drawing on these critiques, we argue for a reorientation in the use of

event-study methodology as well as of measures of acquisition performance, beyond abnormal returns.

As an alternative to refining the construct of acquisition performance, we have also discussed the possibility of using event studies as a means of examining alternative dependent variables, particularly related to investor behavior and financial markets, and have explained how extending the examination of acquisitions from event-study methodology to qualitative methods may increase our understanding of investor behavior and decision making. Because of the complex nature of acquisitions, M&As provide an ideal setting in which to analyze investor behavior, regardless of whether that analysis is qualitative or quantitative. Following these suggestions could inform new theory regarding the processes and motivations for investor behavior at the individual as well as the market level.

Ultimately, a reorientation of event-study methodology and refinement of the construct of acquisition performance in general not only has the potential to lead to greater precision in the analysis of acquisition performance, but also opens several intriguing avenues for future research. In particular, the use of M&As as a research setting may provide several exciting possibilities in the analysis of investor behavior and decision making. Additionally, by relaxing the assumptions of investor rationality, the application of event studies in particular could greatly enhance behaviorally oriented theory.

Note

1 We would like to thank an anonymous reviewer for suggesting this insightful example.

References

Amenta, E., Carruthers, B.G., and Zylan, Y. (1992) "A hero for the aged? The Townsend movement, the political mediation model, and US old-age policy, 1934–1950", *American Journal of Sociology*, 98: 308–39.

Barberis, N. and Thaler, R. (2003) "A survey of behavioral finance," in G.M. Constantinides, M. Harris, and R. Stulz (eds.) *Handbook of the Economics of Finance*, Amsterdam: Elsevier.

Barkema, H.G. and Schijven, M. (2008) "Toward unlocking the full potential of acquisitions: The role of organizational restructuring," *Academy of Management Journal*, 51: 696–722.

Behrens, J.T. (1997) "Principles and procedures of exploratory data analysis," *Psychological Methods*, 2: 131–60.

Bhagat, S., Shleifer, A., and Vishny, R.W. (1990) "Hostile takeovers in the 1980s: The return to corporate specialization," *Brookings Papers on Economic Activity*, 1990: 1–72.

Bower, J.L. (2001) "Not all M&As are alike—and that matters," *Harvard Business Review*, 79(3): 92–105.

Callon, M. (2007) "What does it mean to say that economics is performative?," in D. MacKenzie, F. Muniesa, and L. Siu (eds.) *Do Economists Make Markets? On the Performativity of Economics*, Princeton, NJ: Princeton University Press.

Campbell, D.T. (1988) "Descriptive epistemology: Psychological, sociological, and evolutionary," in E.S. Overman (ed.) *Methodology and Epistemology for Social Science: Selected Papers*, Chicago, IL: University of Chicago Press.

Carton, R.B. and Hofer, C.W. (2006) *Measuring Organizational Performance: Metrics for Entrepreneurship in Strategic Management Research*, Cheltenham: Edward Elgar.

Chaiken, S. (1987) "The heuristic model of persuasion," in M.P. Zanna, J.M. Olson, and C.P. Herman (eds.) *Social Influence: The Ontario Symposium*, Hillsdale, NJ: Lawrence Eribaum Associates, Inc.

Comment, R. and Jarrella, G.A. (1995) "Corporate focus and stock returns," *Journal of Financial Economics*, 37: 67–87.

Cording, M., Christmann, P., and Weigelt, C. (2010) "Measuring theoretically complex constructs: The case of acquisition performance," *Strategic Organization*, 8: 11–41.

Crawford, S. (2012) "What is the energy policy-planning network and who dominates it?: A network and QCA analysis of leading energy firms and organizations," *Energy Policy*, 45: 430–39.

Cress, D.M. and Snow, D.A. (2000) "The outcomes of homeless mobilization: The influence of organization, disruption, political mediation, and framing," *American Journal of Sociology*, 105: 1063–104.

Das, T.K. and Teng, B.S. (1999) "Cognitive biases and strategic decision processes: An integrative perspective," *Journal of Management Studies*, 36: 757–78.

Duhaime, I.M. and Schwenk, C.R. (1985) "Conjectures on cognitive simplification in acquisition and divestment decision making," *Academy of Management Review*, 10: 287–95.

Eisenhardt, K.M. and Graebner, M. (2007) "Theory building from cases: Opportunties and challenges," *Academy of Management Journal*, 50: 25–32.

Fama, E.F. (1970) "Efficient capital markets: A review of theory and empirical work," *Journal of Finance*, 25: 383–417.

Fama, E., Fisher, L., Jensen, M., and Roll, R. (1969) "The adjustment of stock prices to new information," *International Economic Review*, 10: 1–28.

Fiss, P.C. (2011) "Building better causal theories: A fuzzy set approach to typologies in organization research," *Academy of Management Journal*, 54: 393–420.

Glaser, B.G., and Strauss, A.L. (1965) "Discovery of substantive theory: A basic strategy underlying qualitative research," *American Behavioral Scientist*, 8: 5–12.

Goranova, M., Dharwadkar, R., and Brandes, P. (2010) "Owners on both sides of the deal: Mergers and acquisitions and overlapping institutional ownership," *Strategic Management Journal*, 31: 1114–35.

Granovetter, M. (1985) "Economic action and social structure: The problem of embeddedness," *American Journal of Sociology*, 91: 481–510.

Haleblian, J., Devers, C.E., Mcnamara, G., Carpenter, M.A., and Davison, R.B. (2009) "Taking stock of what we know about mergers and acquisitions: A review and research agenda," *Journal of Management*, 35: 469–502.

Harrison, J.S., Hitt, M.A., Hoskisson, R.E., and Ireland, R.D. (1991) "Synergies and post-acquisition performance: Differences versus similarities in resource allocations," *Journal of Management*, 17: 173–90.

Haspeslagh, P.C. and Jemison, D.B. (1991) *Managing Acquisitions: Creating Value Through Corporate Renewal*, New York: Free Press.

Herrmann-Pillath, C. (2010) "A neurolinguistic approach to performativity in economics," *Journal of Economic Methodology*, 17: 241–60.

Hicks, A., Misra, J., and Ng, T.N. (1995) "The programmatic emergence of the social security state," *American Sociological Review*, 60: 329–49.

Hirshleifer, D. (2001) "Investor psychology and asset pricing," *Journal of Finance*, 56: 1533–97.

Hubbard, R.G. and Palia, D. (1999) "A reexamination of the conglomerate merger wave in the 1960s: An internal capital markets view," *Journal of Finance*, 54: 1131–52.

Hunter, J.E. and Coggin, T.D. (1988) "Analyst judgment: The efficient market hypothesis versus a psychological theory of human judgment," *Organizational Behavior & Human Decision Processes*, 42: 284–302.

Jemison, D.B. and Sitkin, S.B. (1986) "Corporate acquisitions: A process perspective," *Academy of Management Review*, 11: 145–63.

Kaplan, S.N. and Weisbach, M.S. (1992) "The success of acquisitions: Evidence from divestitures," *Journal of Finance*, 47: 107–38.

King, D.R., Dalton, D.R., Daily, C.M., and Covin, J.G. (2004) "Meta-analyses of post-acquisition performance: Indications of unidentified moderators," *Strategic Management Journal*, 25: 187–200.

Kogut, B. and Ragin, C. (2006) "Exploring complexity when diversity is limited: Institutional complementarity in theories of rule of law and national systems revisited," *European Management Review*, 3: 44–59.

Kozielecki, J. (1981) *Psychological Decision Theory*, Boston, MA: Springer.

Krier, D. (2005) *Speculative Management: Stock Market Power and Corporate Change*, Albany: State University of New York Press.

Krook, M.L. (2010) "Women's representation in parliament: A qualitative comparative analysis," *Political Studies*, 58: 886–908.

Lawrence, E.R., Mccabe, G., and Prakash, A.J. (2007) "Answering financial anomalies: Sentiment-based stock pricing," *Journal of Behavioral Finance*, 8: 161–71.

Levine, M. (1971) "Hypothesis theory and nonlearning despite ideal S-R-reinforcement contingencies," *Psychological Review*, 78: 130–40.

Lin, C., Tan, B., and Hsieh, P.J. (2005) "Application of the fuzzy weighted average in strategic portfolio management," *Decision Sciences*, 36: 489–511.

List, J.A. (2003) "Does market experience eliminate market anomalies?," *The Quarterly Journal of Economics*, 118: 41–71.

List, J.A. (2004) "Neoclassical theory versus prospect theory: Evidence from the marketplace," *Econometrica*, 72: 615–25.

Louis, H. and Sun, A. (2010) "Investor inattention and the market reaction to merger announcements," *Management Science*, 56: 1781–93.
Mackenzie, D. (2006) "Is economics performative? Option theory and the construction of derivatives markets," *Journal of the History of Economic Thought*, 28: 29–55.
McWilliams, A. and Siegel, D. (1997) "Event studies in management research: Theoretical and empirical issues," *Academy of Management Journal*, 40: 626–57.
March, J. and Simon, H.A. (1958) *Organizations*, Oxford: Wiley.
Matsusaka, J.G. (1993) "Takeover motives during the conglomerate merger wave," *RAND Journal of Economics*, 24: 357–79.
Meglio, O. (2015) "The acquistion performance game: a stakeholder approach," in A. Risberg, D.R. King, and O. Meglio (eds.) *The Routledge Companion to Mergers and Acquisitions*, Oxford: Routledge.
Meglio, O., and Risberg, A. (2010). "Mergers and acquisitions—Time for a methodological rejuvenation of the field?," *Scandinavian Journal of Management*, 26: 87–95.
Meglio, O. and Risberg, A. (2011) "The (mis)measurement of M&A performance: A systematic narrative literature review," *Scandinavian Journal of Management*, 27: 418–33.
Mintzberg, H. (2005) "Developing theory about the development of theory," in K.G. Smith and M.A. Hitt (eds.), *Great Minds in Management: The Process of Theory Development*, Oxford: Oxford University Press.
Oler, D.K., Harrison, J.S., and Allen, M.R. (2008) "The danger of misinterpreting short-window event study findings in strategic management research: An empirical illustration using horizontal acquisitions," *Strategic Organization*, 6: 151–84.
Park, N.K. (2004) "A guide to using event study methods in multi-country settings," *Strategic Management Journal*, 25: 655–68.
Petty, R.E. and Cacioppo, J.T. (1986) "The elaboration likelihood model of persuasion," in R.E. Petty and J.T. Cacioppo (eds.), *Communication and Persuasion*, New York: Springer.
Petty, R.E. and Wegener, D.T. (1999) "The elaboration likelihood model: Current status and controversies," in S. Chaiken and Y. Trope (eds.), *Dual-process Theories in Social Psychology*, New York: Guilford Press.
Petty, R., Briñol, P., and Priester, J. (2009) "Mass media attitude change," in J. Bryant and M.B. Oliver (eds.), *Media Effects: Advances in Theory and Research*, New York: Routledge.
Preda, A. (2007) "The sociological approach to financial markets," *Journal of Economic Surveys*, 21: 506–33.
Pruitt, G. (1961) "Informational requirements in making decisions," *The American Journal of Psychology*, 7: 433–39.
Ragin, C.C. (2008) *Redesigning Social Inquiry: Fuzzy Sets and Beyond*, Chicago, IL: University of Chicago Press.
Ravenscraft, D.J. and Scherer, F.M. (1987) *Mergers, Sell-offs, and Economic Efficiency*, Washington, DC: Brookings Institution Press.
Rhéaume, L. and Bhabra, H.S. (2008) "Value creation in information-based industries through convergence: A study of U.S. Mergers and acquisitions between 1993 and 2005," *Information & Management*, 45: 304–11.
Rubtsova, A., Dejordy, R., Glynn, M.A., and Zald, M. (2010) "The social construction of causality: The effects of institutional myths on financial regulation," *Research in the Sociology of Organizations*, 30: 201–44.
Rumelt, R.P. (1974) *Strategy, Structure, and Economic Performance*, Boston, MA: Division of Research, Graduate School of Business Administration, Harvard University.
Rumelt, R.P. (1982) "Diversification strategy and profitability," *Strategic Management Journal*, 3: 359–69.
Samuels, W.J. (2004) "Markets and their social construction," *Social Research*, 71: 357–70.
Schijven, M. and Hitt, M.A. (2012) "The vicarious wisdom of crowds: Toward a behavioral perspective on investor reactions to acquisition announcements," *Strategic Management Journal*, 33: 1247–68.
Schijven, M. and King, D. (2013) "Investors as quasi-advisors to management: Signaling and counter-signaling between acquisition announcement and completion," working paper.
Schwenk, C.R. (1984) "Cognitive simplification processes in strategic decision-making," *Strategic Management Journal*, 5: 111–28.
Schwenk, C.R. (1985) "Management illusions and biases: Their impact on strategic decisions," *Long Range Planning*, 18: 74–80.
Shiller, R.J. (2003) "From efficient markets theory to behavioral finance," *The Journal of Economic Perspectives*, 17: 83–104.
Shiller, R.J., Fischer, S., and Friedman, B.M. (1984) "Stock prices and social dynamics," *Brookings Papers on Economic Activity*, 1984: 457–510.

Shleifer, A. (2003) *Inefficient Markets: An Introduction to Behavioral Finance*, Oxford, UK: Oxford University Press.

Shleifer, A. and Vishny, R.W. (1997) "The limits of arbitrage," *Journal of Finance*, 52: 35–55.

Staw, B.M. (1976) "Knee-deep in the big muddy: A study of escalating commitment to a chosen course of action," *Organizational Behavior & Human Performance*, 16: 27–44.

Steinbruner, J.D. (1974) *The Cybernetic Theory of Decision: New Dimensions of Political Analysis*, Princeton, NJ: Princeton University Press.

Tormala, Z.L., Briñol, P. and Petty, R.E. (2006) "When credibility attacks: The reverse impact of source credibility on persuasion," *Journal of Experimental Social Psychology*, 42: 684–91.

Tversky, A. and Kahneman, D. (1974) "Judgment under uncertainty: Heuristics and biases," *Science*, 185: 1124–31.

Vaisey, S. (2007) "Structure, culture, and community: The search for belonging in 50 urban communes," *American Sociological Review*, 72: 851–73.

Venkatraman, V.N. and Ramanujam, V. (1986), "Measurement of business performance: A comparison of approaches," *Academy of Management Review*, 11: 801–14.

Wason, P.C. (1960) "On the failure to eliminate hypotheses in a conceptual task," *Quarterly Journal of Experimental Psychology*, 12: 129–40.

White, H.C. (1981) "Where do markets come from?," *American Journal of Sociology*, 87: 517–47.

Yager, R. and Basson, D. (1975) "Decision making with fuzzy sets," *Decision Sciences*, 6: 590–600.

Zadeh, L.A. (1965) "Fuzzy sets," *Information and Control*, 8: 338–53.

Zajac, E.J. and Westphal, J.D. (2004) "The social construction of market value: Institutionalization and learning perspectives on stock market reactions," *American Sociological Review*, 69: 433–57.

Zimmermann, H.J. (2001) *Fuzzy Set Theory and Its Applications*, Boston, MA: Springer.

Zollo, M. and Meier, D. (2008) "What Is M&A performance?," *Academy of Management Perspectives*, 22: 55–77.

Zuckerman, E.W. (2004) "Structural incoherence and stock market activity," *American Sociological Review*, 69: 405–32.