© *The Academy of Management Perspectives*
2014, Vol. 28, No. 1, 22–37.
http://dx.doi.org/10.5465/amp.2011.0110

A R T I C L E S

WHEN THEORY DOESN'T MEET PRACTICE: DO FIRMS REALLY STAGE THEIR INVESTMENTS?

ROBERTO RAGOZZINO
ESADE Business School, Ramon Llull University

CATERINA MOSCHIERI
Instituto de Empresa

Theory has often discussed the benefits of adopting a staged investment strategy in mergers and acquisitions when investments hold uncertain prospects. Specifically, firms should enter into a cooperative agreement, such as a strategic alliance, before they eventually decide to buy out a partner. In this paper, we first review the theoretical arguments supporting such an approach and then provide evidence showing that staged investments in mergers and acquisitions are far less frequent than theory predicts. We analyze a sample of 24,495 global transactions that occurred between 1995 and 2010 and find that firms stage mergers and acquisitions in only 1.26% of all deals. This figure changes little after we control for transaction- and environmental-level considerations. We propose several explanations of why staged investments are seldom used in practice, despite their theoretical properties.

Mergers and acquisitions (M&A) are pervasive undertakings and their global economic relevance is measured in the trillions of dollars annually. Despite their popularity, though, these transactions have a dismal track record: Half of all deals are eventually divested, and buyers rarely gain from M&A (e.g., Kaplan & Weisbach, 1992; Mitchell & Stafford, 2000). The reasons for such poor performance have been investigated in the literature, and it has become apparent that M&A represent a very complex and heterogeneous governance solution in which differing incentives (e.g., Amihud & Lev, 1981; Jensen, 1986; Shleifer & Vishny, 1986), information asymmetry between buyers and sellers (e.g., Coff, 1999; Datar, Frankel, & Wolfson, 2001; Eckbo, Giammarino, & Heinkel, 1990; Fishman, 1989; Hansen, 1987), environmental and deal-specific uncertainty (e.g., Anderson & Gatignon, 1986; Hennart, 1988; Hennart & Larimo, 1998; Kim & Hwang, 1992; Kogut & Singh, 1988; Shan, 1991), and other considerations can stand in the way of successfully implementing acquisitions.

Because of their pervasiveness and complexity M&A have attracted the attention of business scholars, who have offered many theoretical perspectives on deal making as well as guidance to firms needing to protect themselves from the hazards of acquisitions. Part of this academic work has argued that when M&A are characterized by high levels of uncertainty, acquirers ought to stage their investment into a target, rather than proceeding with an immediate all-out acquisition. For example, organizational learning theory has developed the case that firms should ease into unfamiliar investments, to gradually acquire the required skills to handle more resource-intensive endeavors (e.g., Lei, Hitt, & Bettis, 1996). Similarly, information economics proponents have argued that the use of contingent payment structures and intermediate governance solutions might help to circumvent the hazards of adverse selection, which is so ubiquitous in M&A (e.g., Balakrishnan & Koza, 1993; Datar et al., 2001; Hagedoorn & Sadowski, 1999; Mitchell & Singh, 1992; Mody, 1993; Porrini, 2004; Reuer & Koza, 2000; Reuer, Shenkar, & Ragozzino, 2004). Finally,

We acknowledge financial support from the Portuguese Foundation for Science and Technology (#PTDC/EGE-GES/110805/2009).

real options theory has also emphasized the benefits inherent in a decision-making approach that values flexibility over hard commitments, pointing at the staging of risky acquisitions by embedding in preliminary joint ventures with targeted companies the option to buy out their partners' stakes in the deal at a later time (e.g., Folta, 1998; Reuer & Tong, 2007; Vassolo, Anand, & Folta, 2004).

Despite the significant amount of research in this area, most of which has pointed at the viability of staged investments (e.g., Bleeke & Ernst, 1995; Dussauge, Garrette, & Mitchell, 2000; Hennart, Kim, & Zeng, 1998), so far little is known about their *actual* use in the realm of M&A. To be fair, a handful of studies have questioned the overall usefulness of this approach for firms (in the case of real options see, for instance, Krychowski and Quélin, 2010, and Triantis, 2005). However, these papers either have focused on conceptualizing the link between theory and practice at a broad level or have otherwise analyzed small samples or individual decisions in industry-specific contexts. No large-scale study to date has investigated the use of staged investments in the area of mergers and acquisitions.

Our objective is to fill this void. To this end, we used the Securities Data Corporation database to build a sample of nearly 25,000 global acquisitions spanning the years 1995 through 2010. These data cut across all industries and make up a very representative sample of the worldwide population of acquisitions over the past 16 years. From the same source, we also obtained data on the strategic alliances—defined as broadly as possible (from arm's-length agreements to equity joint ventures)—that occurred worldwide between 1990 and 2010. We then matched the two datasets to determine whether the M&A deals in our data were characterized by a preliminary cooperative agreement between the target and the acquirer before the acquisition.

We found that in only 1.26% of all deals did firms perform acquisitions via staged investments. This suggests that acquirers rarely follow a staged-investment approach before they go on to buy their targets. We then proceeded to examine several characteristics that might affect the decision by buyers to stage their acquisitions. For instance, we found that deals that occurred in the earlier years of our sample show a significantly greater incidence of precursory alliances than those in later years. We also compared domestic and cross-border acquisitions, because the latter tend to present higher uncertainty for buyers (e.g., Bell, Filatotchev, & Rasheed, 2012; Mezias, 2002; Zaheer, 1995; Zaheer & Mosakowski, 1997). The results show that there are no statistical differences between domestic and international acquisitions in the use of preliminary alliances in M&A. As a last illustration, we compared acquisitions in target industries that are R&D-intensive versus others, as we expected the former to present higher uncertainty for buyers. As predicted by the theory, we found that staged investments are used far more in R&D-intensive industries. Combined, these results—and others we present in this paper—allow us to draw one important conclusion: Although firms appear to stage acquisitions more when high levels of uncertainty are present in their acquisitions, the significance of this approach in the overall economy of M&A is by and large negligible.

This study brings forth at least two contributions. The first is the general set of empirical conclusions we present, which are drawn from a very large dataset spanning 16 years and 140 countries. The scale and scope of this study allow us to offer a powerful description of the actual use of staged investments in M&A. To the extent that using strategic alliances as antecedents to acquisitions is believed to yield a host of benefits for acquirers, our results highlight the discrepancy that exists between theory and practice in this area of management. The second contribution is our discussion of the reasons why staged investments do not find a fertile setting in the domain of M&A. The set of arguments we bring forth provides a managerial counterpoint to the mainstream literature on staging, which attempts to reconcile how the unique features of acquisitions might induce or deter the use of staged investments, as predicted by theory.

The paper proceeds as follows: First, we provide a review of the theories that have supported the viability of staged investments in M&A. We then report our empirical findings. Last, we offer our perspective on why, despite their theoretical properties, staged investments find so little actual use in practice.

WHY STAGE ACQUISITIONS? THEORETICAL ARGUMENTS

Three separate theoretical perspectives predict the use of staged investments in M&A under certain conditions: organizational learning, information economics, and real options theory. We summarize these theories' predictions and contingencies in Table 1.

TABLE 1
Theoretical Rationales in Favor of Staged Investments and Counterpoints

	Theoretical Rationale	Counterpoint
Organizational learning	Firms learn from each other how to exchange information, capabilities, and skills (e.g., Anand & Khanna, 2000; Barkema & Schijven, 2008; Hamel, 1991; Kale and Singh, 2000; Khanna et al., 1998). Firms learn how to manage the collaboration process and have the opportunity to know the target's potential compatibility and managerial problems before the acquisition (e.g., Ariño & de la Torre, 1998; Barkema & Drogendijk, 2007; Barkema & Schijven, 2008; Barkema & Vermeulen, 1998; Doz, 1996; Kale and Singh, 2000; Kogut & Zander, 1992). Firms learn to evaluate and assign value to the target's firm-specific resources to assess the realizable benefits of the eventual acquisition (e.g., Burt, 1992; Gulati, 1999).	Through strategic alliances firms can risk losing core capabilities, skills, and information to partners, as the alliance partner can act opportunistically to its own exclusive benefit. Alliances that are based on licensing and alliances in industries different from technology and manufacturing may allow for only low levels of learning.
Information economics	Staging reduces adverse selection because it allows buyers to structure a pay-for-information acquisition and also because good-quality sellers are able to signal their value to buyers, who would otherwise face the risks inherent in asymmetrical information (e.g., Balakrishnan & Koza, 1993; Hagedoorn & Sadowski, 1999; Mitchell & Singh, 1992; Mody, 1993; Porrini, 2004; Reuer & Koza, 2000).	Staging can exacerbate the onset of moral hazard in the aftermaths of an alliance.
Real options	Real options afford firms the option to delay capital-intensive decisions until the uncertainty surrounding an investment dissipates. They grant three types of benefits: growth, flexibility, and abandonment (e.g., Smith & Triantis, 1995). Staged investments can function as real options to expand in technological areas and market developments (e.g., Bleeke & Ernst, 1995; Dussauge et al., 2000; Hennart et al., 1998; Kulatikala & Perotti, 1998; Smit & Moraitis, 2010; Tong & Li, 2011).	Staging an investment delays the process of synergy creation, and often outright acquisitions represent the most time-effective way of promptly penetrating a market and securing first-mover advantages. Firms face the challenge of attaching an appropriate value to a real option.

Organizational Learning Theory

M&A are highly heterogeneous and complex endeavors (e.g., Zollo & Singh, 2004), as they cause acquiring firms to face the challenges of searching for partners, implementing due diligence, structuring a deal, integrating the target, and finally harvesting the expected synergies from these operations (for a recent discussion, see Barkema and Schijven, 2008). Therefore, although M&A can open new opportunities in terms of market entry, acquisitions of new technologies that might complement a buyer's corporate portfolio, absorption of a competitor, or vertical integration, (Barkema & Drogendijk, 2007; Barkema & Vermeulen, 1998; Dunning, 1995), the chances of success of these transactions vastly depend on the extent to which the target's resources can be integrated into the acquirer's without resistance (Larsson & Finkelstein, 1999).

Depending on a firm's capacity to absorb previously learned routines and on a host of other contingencies, repeated engagements in corporate activity might also facilitate buyers' future transactions and increase their odds of success (Pennings, Barkema, & Douma, 1994). For example, Barkema and Vermeulen (1998) and Vermeulen and Barkema (2002) found that a firm's inclination to set up a new venture in a foreign country rather than acquire an existing local company increases if the firm has accumulated knowledge and technological capabilities from previous operations in diverse national and product settings. As another illustration, Barkema and Drogendijk (2007) found that companies investing abroad increase their investments gradually, as they acquire knowledge about a foreign market over time. Firms that follow this learning pattern and enter via licensing, franchising, and other non-resource–intensive governance modes tend to perform better in subsequent cross-border investments.

To the extent that corporate learning can improve the successful execution of future transactions, prior literature has found several reasons why staging the acquisition of a target through a preliminary alliance can help a buyer cope with the challenges of M&A. First, alliances facilitate organizational learning (Anand & Khanna, 2000) in general, as they allow firms to share information and capabilities with each other (e.g., Hamel, 1991; Kale & Singh, 2000; Khanna, Gulati, & Nohria, 1998). Second, a staged approach to M&A can afford an acquiring firm the opportunity to evaluate the target's resources, to determine with finer precision the realizable benefits of the eventual acquisition (Gulati, 1999; Kale & Singh, 2000). Third, by implementing a staged approach to acquisitions buyers can experiment with resource exchanges (Cohen & Levinthal, 1990) and estimate the potential post-acquisition integration problems that may arise before a deal ever takes place (e.g., Kogut & Zander, 1992). Last, besides appeasing the target-specific challenges of acquisitions, staging can also help reduce the adverse consequences of committing to a market characterized by a great deal of uncertainty.

For example, research in international management has discussed the advantages of avoiding early outright cross-border acquisitions in favor of less resource-intensive entry modes when foreign markets are characterized by high cultural or political risks (e.g., Brouthers, 2002; Gatignon & Anderson, 1988; Hill, Hwang, & Kim, 1990; Johanson & Vahlne, 1977; Kim & Hwang, 1992; Kogut & Singh, 1988; Shan, 1991). Given the well-known poor performance record of M&A (see Andrade, Mitchell, & Stafford, 2001), these benefits can prove extremely valuable as they offer acquirers the ability to hold off substantial upfront resource commitments, learn about a prospective target and market, and escalate their commitments only once learning has taken place (e.g., Porrini, 2004). It is no surprise that prior research has found that the accumulation of experience through alliances has a positive effect on M&A performance (i.e., Zollo & Reuer, 2010).

INFORMATION ECONOMICS THEORY

Broadly speaking, the theory of information economics has been widely used to examine the inefficiencies that stem from transactions involving parties holding different information on the goods to be exchanged. The theory finds its roots in the work of Akerlof (1970), whose seminal piece describing the market for used cars has found numerous extensions and applications in other markets (e.g., Löfgren, Persson, & Weibull, 2002; Stiglitz, 2000). In Akerlof's model the sellers of good-quality cars must attach warranties to their vehicles to allow buyers to tell these sellers apart from the sellers of "lemons." Unless the costly remedy of warranties is implemented, markets will not clear because buyers, unable to distinguish car types, will inevitably discount the value of all cars, and no seller—whether good or bad—will accept a low valuation from buyers. This is called adverse selection, and it has been found to be pervasive in many markets and exchanges, including mergers and acquisitions.

Within the realm of M&A, information economics concerns itself with the risk of adverse selection borne by acquirers trying to value prospective targets. Fundamentally, when disagreements over the value of the exchange exist between the parties and absent appropriate information signals about the target, acquirers tend to overpay for their acquisitions or walk away from potentially attractive deals (e.g., Eckbo et al., 1990). Prior work in strategy has discussed ways in which acquirers may be able to cope with the hazards of adverse selection. For example, research has emphasized the benefits for acquirers of using contingent payment structures, such as stock or contingent earnouts, to shift the overpayment risk to the seller (e.g., Datar et al., 2001; Fishman, 1989; Kohers & Ang, 2000; Ragozzino & Reuer, 2009).

Closer to home, prior research has proposed that alternate governance structures such as strategic alliances, equity joint ventures, and partial acquisitions might be used in lieu of or before full acquisitions when the risk of adverse selection is significant (e.g., Balakrishnan & Koza, 1993; Hagedoorn & Sadowski, 1999; Mitchell & Singh, 1992; Mody, 1993; Porrini, 2004; Reuer & Koza, 2000). Strategic alliances may provide a suitable way to reduce the risk of adverse selection for acquirers, because these firms can experiment with a prospective target on a piecemeal basis before buying out a target whose value is difficult to unearth. Just as important, the acceptance of an intermediate solution by a target offers an important signal about its value and enhances its credibility in the eyes of a buyer that might otherwise be inclined to question its good faith (i.e., Spence, 1974). In other words, buyers bear costs through the process of due diligence, and actions undertaken by sellers to signal their quality and reduce the risk of overpayment faced by buyers will help M&A markets to clear (e.g., Fishman, 1989; Hansen, 1987; Ravenscraft & Scherer, 1987). From this perspective, in addition to providing buyers with the chance to learn about the target over time, the willingness to enter into preliminary intermediate governance solutions affords good-quality sellers the opportunity to signal their value to buyers. This signal can lower the problem of adverse selection in mergers and acquisitions, thereby helping the two firms come together (e.g., Arend, 2004; Balakrishnan & Koza, 1993; Hennart & Reddy, 1997; Zaheer, Hernandez, & Banerjee, 2010).

Real Options Theory

Real options theory refers to hard assets investments that share similar characteristics to investments in financial options (e.g., Bowman & Hurry, 1993; Dixit & Pindyck, 1994; McGrath, 1999). In the same way that financial options give the holder the right but not the obligation to buy or sell the underlying asset in the future at a prespecified price, real options give firms the discretion to delay capital commitments to an investment until the uncertainty surrounding it clears. Real options proponents have discussed several settings in which their approach may be advantageous. Our goal is not to cover this extensive work in detail here, and interested readers can find a useful review in Krychowski and Quélin (2010). Rather, we wish to focus on the application of real options in the context of mergers and acquisitions.

In one of the earliest studies that linked real options and M&A, Kogut (1991) discussed how joint ventures can be created as real options to expand in response to technology and market developments. Kogut introduced the notion that real options can be used to exploit the potential upside of investment opportunities, not just to reduce the downside risk. These ideas have been corroborated in subsequent work, which has also emphasized that acquisitions—especially those affected by uncertainty about the future—ought to be preceded by some sort of a cooperative agreement by the parties, such as a joint venture, a prototype, or a pilot project (e.g., Bleeke & Ernst, 1995; Dussauge et al., 2000; Hennart et al., 1998; Kulatilaka & Perotti, 1998; Smit & Moraitis, 2010; Tong & Li, 2011).

The basic argument in favor of staging investments is that this approach gives firms the option to delay capital-intensive decisions until the uncertainty surrounding an investment dissipates. Alternatively, firms may choose to keep the status quo or walk away from an investment by undoing the alliance rather than turning it into an acquisition. In sum, a real-options–based approach to investments may ultimately grant a firm three types of benefits: growth, flexibility, and abandonment (Smith & Triantis, 1995). Each might be obtained by appropriately staging investments via strategic alliances in the way that Kogut and other scholars explained.

As an illustration, investments in R&D projects are typically characterized by high levels of uncertainty, path dependence accumulation processes, and information asymmetry, all of which can affect firms' proclivity for new exploratory activities (e.g., Folta, 1998; Hurry, Miller, & Bowman, 1992; McGrath & Nerkar, 2004; Vassolo et al., 2004). In these scenarios, managers may adopt real options and structure R&D investments to share the cost of their development with a partner, while also acquiring the right to buy the partner out at a later time. This approach allows firms to gather information over time and calibrate their course of action as the potential of the investment gradually reveals itself (e.g., Bowman & Moskowitz, 2001).

Despite these theoretical benefits of staged investments in M&A, the extent of their application in practice is unclear. Overall, on one hand, we have a persuasive set of theoretical arguments that corroborate the usefulness of staged investments in M&A. On the other hand, there is anecdotal evidence implicitly suggesting that the complexity of mergers and acquisitions may make adopting this investment approach impractical. What is missing is research based on large-scale data that finally closes the loop on this open question. Our goal is to begin to fill this gap.

DATA AND EMPIRICAL EVIDENCE

We used the Securities Data Corporation (SDC) database to build a sample of 24,495 global acquisitions spanning the years 1995 through 2010. These data cut across all industries and make up a very representative sample of worldwide acquisition activity over those 16 years. It should be noted that we considered only full and majority acquisitions, dropping from the data all minority, partial, and residual purchases of target stakes (we did, however, consider minority and partial acquisitions when examining whether prior relationships existed between the parties, as explained below). Moreover, we excluded repurchases, carveouts, buyouts, privatizations, and divestitures as well as transactions coded as financial portfolio adjustments and deals with missing descriptions.

To determine whether the acquisitions in our data were preceded by cooperative agreements between the parties, we also drew from the SDC to construct a sample of partial acquisitions, alliances, and joint ventures that occurred between 1990 and 2010 (for simplicity, we refer to all such deals as "strategic alliances" from here on). We used a five-year window before the focal transaction to track this activity. The data appendix provides details on how we constructed the data used for the ensuing analysis. We recognize that the inherent opportunities for value creation through strategic alliances and eventual subsequent acquisitions depend on the structure of the cooperative agreements entered into by a firm (e.g., Piaskowska & Barkema, 2007). Including all types of alliances allowed us to be as conservative as possible, not ruling out any such opportunities.

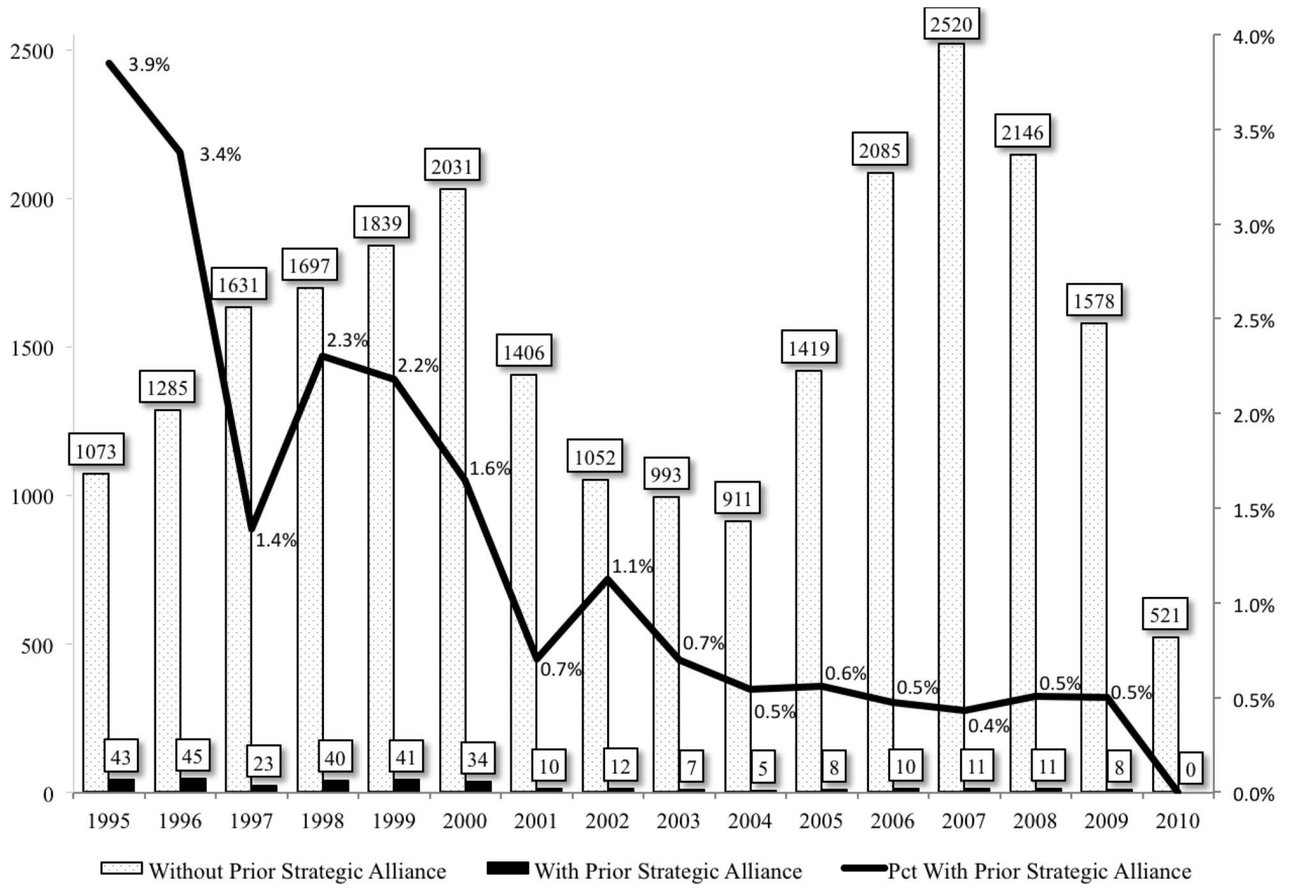
Before we discuss our findings, it is worthwhile to provide some descriptive highlights of our data. The longitudinal dataset of the M&A appears to be relatively unevenly distributed across the 16 years comprising our sample, with the earliest period (before the high-tech bubble) and the period preceding the current economic crisis (before 2008) featuring markedly greater activity. It is worthwhile to note that the distribution of transactions in our data closely resembles the overall acquisition activity through the entire period. An analysis of the cross section of the industries in the data show that the finance, manufacturing, and service industries are the most active, accounting for roughly 38 (21), 20 (24), and 22 (31) percent of the total for the buy (sell) side, respectively. Again, this pattern is consistent with general M&A activity globally.

When examining domestic versus international transactions, we found that the former represent over 81% of the total and that roughly 50% of all transactions involve buyers and sellers from the United States. However, it is interesting that the proportion of national and cross-border transactions shifted significantly over the duration of our data, going from nearly 90% in 1995 to 73% in 2010. When we split the data between early (1995–2002) and late years (2003–2010) and ran a chi-squared test to determine whether these distributional differences were significant, we found support for this hypothesis (i.e., $\chi^2 = 160.01$, $p < .001$). Similarly, and even more notably, the split between deals involving two United States-based firms as opposed to two non-U.S.–based ones was significantly different between the early and the late years in our data. In fact, the distribution reversed in the two observation periods, showing a 60/40 pattern in years 1995 through 2002 and a 40/60 pattern in 2003 through 2010 (i.e., $\chi^2 = 971.46$, $p < .001$).

In total, only 308 acquisitions were preceded by a strategic alliance. This amounts to 1.26% of the 24,495 transactions comprising our sample. This figure is hardly evidence of a pervasive use of staged investments in M&A. To shed additional light on this issue, we performed additional descriptive analyses of the data. First, we checked to see whether the longitudinal distribution of deals featuring a preliminary alliance was significantly different from the distribution of deals without this feature. The basic distribution of these transactions (see Figure 1) shows a marked decrease in the adoption of staged acquisitions over time. In fact, if we split the sample between 1995–2002 and 2003–2010, we see that in the earlier period the average use of preliminary strategic alliances was just over 2%, while in the latter it was about 0.5%. A chi-squared test confirmed that these differences are statistically significant (i.e., $\chi^2 = 115.76$, $p < .001$). Although we do not have a definitive explanation for this time difference in the use of staged investments in M&A, we suspect that it may be attributable to the increased pace of globalization, which has increased the level of homogeneity across investment environments, thereby lowering the need for managers to resort to staged investments in acquisitions. On the other hand, globalization might have also raised competitive pressure on multinational enterprises, causing them to be more aggressive with their investments overseas.

Paralleling the previous analysis and to determine whether sector-specific considerations may explain the breakdown of staged acquisitions, we compared the use of strategic alliances across the broad cross section of industries in our sample. Figure 2 provides the detailed categorization and shows that there are significant differences in the use of strategic alliances as precursors to acquisitions. For instance, the utilities, mining, and communication industries indicate a far greater use of this managerial tactic (i.e., 2.2%, 2.5%, and 4.0%, respectively, and 2.9% of all deals in these sectors versus 0.90% for all other sectors), as also highlighted by a chi-squared test comparing these sectors against all others (i.e., $\chi^2 = 43.09$, $p < .001$). This finding is expected, as certain industries hold specific requirements that make staged investments comparatively more attractive.

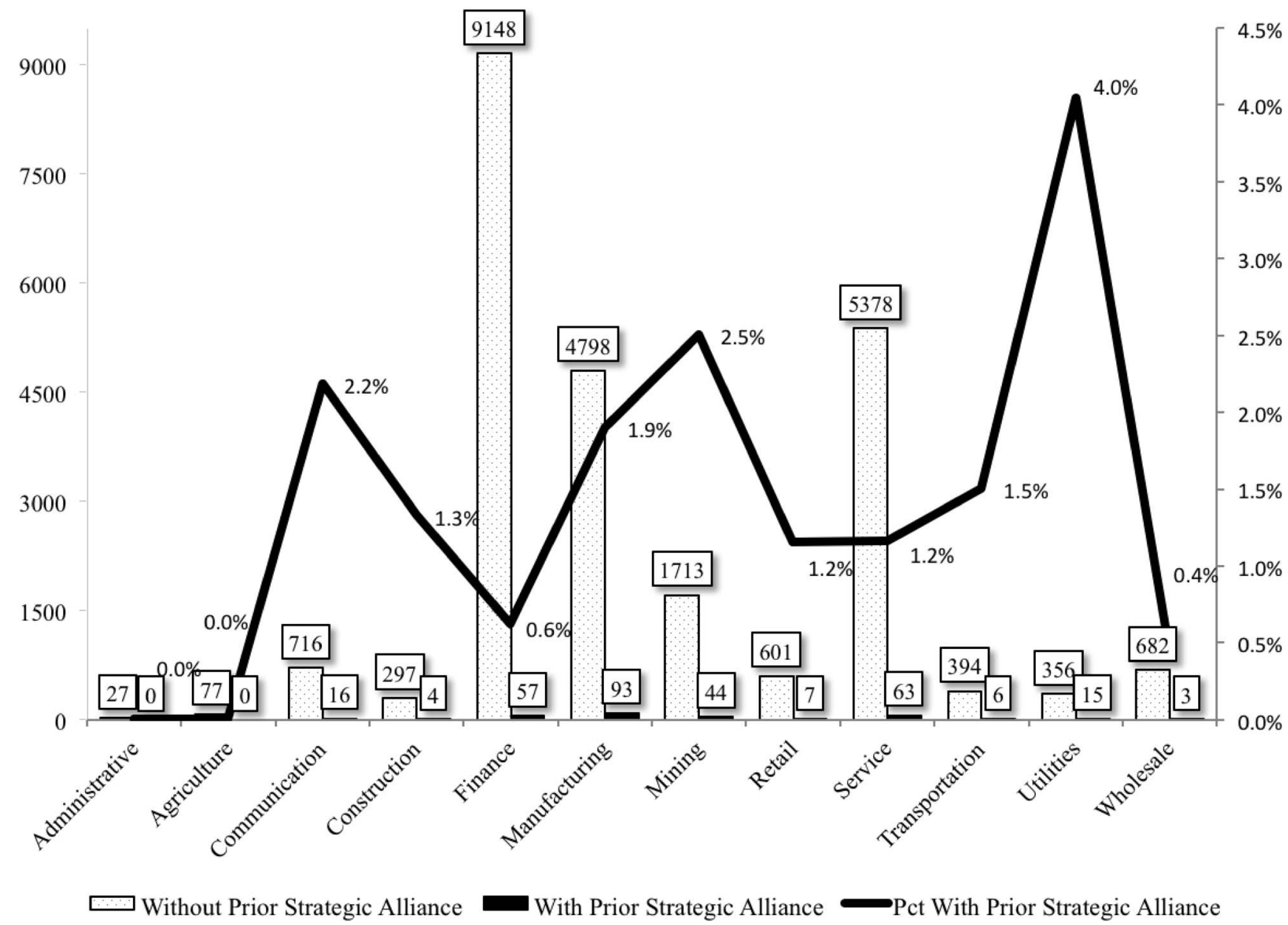
FIGURE 1
Longitudinal Distribution of Global M&A Deals With and Without Prior Strategic Alliances, 1995–2010



The case of mining is the most blatant, as this industry requires substantial upfront capital outlays and holds a great deal of uncertainty with respect to the return on investment to be realized in the future. Thus, it makes sense for firms to share these costs and choose to disburse more capital as the information about the investment becomes manifest. It is no surprise that this industry has been used as the backdrop for studies discussing the usefulness of real options (e.g., Cortazar, Schwartz, & Salinas, 1998; Moel & Tufano, 2002). The utilities and communication industries also feature high ex ante fixed costs needed to build infrastructures that are often shared among competitors and that seldom constitute sources of competitive advantage for firms. Therefore, they too are ideal settings for the implementation of a real-options–based approach to M&A.

Comparisons in Table 2 reveal several other sources of variance in the use of real options in M&A. For example, it appears that intra-industry transactions are preceded by strategic alliances more than deals in which acquirers and sellers are from different industries (i.e., $\chi^2 = 25.88$, $p < .001$). A possible explanation for this result is that firms may be better able to set up preliminary alliances in familiar industries, owing to their ability to more effectively curb partners' incentives to act opportunistically. Table 2 also shows that staged investments are far more common in acquisitions of targets operating in R&D-intensive industries (i.e., $\chi^2 = 9.63$, $p < .001$), as predicted by real options theory. In contrast, there is no evidence that cross-border transactions are implemented with staged investments more than domestic deals (i.e., $\chi^2 = 1.28$, n.s.). We find this somewhat surprising, as foreign acquisitions are often more uncertain and would seem to be more suitable settings for this sort of strategy than domestic ones. Interestingly, we found a similar result when we separated target countries with high levels of cultural or political risk from others (i.e., measured at the median for

FIGURE 2
Industrial Distribution of Global M&A Deals With and Without Prior Strategic Alliances, 1995–2010



the sample composed of cross-border deals only; both chi-squared tests are not significant).

The last comparison in Table 2 is between transactions featuring buyers and sellers from the United States and transactions in which neither party was from the United States. The test shows that non-U.S. deals exhibit a far greater incidence of staged investments than their counterparts (i.e., $\chi^2 = 37.53$, $p < .001$). We thought that this result could be explained either by the relatively low uncertainty of the U.S. investment environment or by the lower inclination of U.S. managers to stage investments in general. To test the former idea, we ran a new comparison of all deals in which the target was U.S.-based and the buyer was either from the United States or any other country (not shown in the table). This test showed supporting evidence that acquirers—irrespective of origin—use staged investments less when buying U.S. targets than otherwise (i.e., $\chi^2 = 35.76$, $p < .001$). To determine whether U.S. managers systematically stage less often than managers from other countries, we compared all acquisitions, separating deals by U.S. acquirers from the rest, and found that this is indeed the case (i.e., $\chi^2 = 31.41$, $p < .001$).

On the whole, these basic comparisons highlight several sources of variance with respect to the adoption of a staged investments approach to M&A. More important, the aggregate set of descriptive results we present here show very strong evidence of the scant use of this strategic approach in acquisitions under all the circumstances we explore.

WHAT MIGHT EXPLAIN THE SCANT USE OF STAGING IN M&A?

While using strategic alliances as precursors to acquisitions is theoretically appealing, there are many reasons why it may not happen in practice. In this section, we propose several explanations for

TABLE 2
Use of Strategic Alliances as Precursors to Acquisitions—Transaction-Level Comparisons[a]

Strategic alliance	Intra-industry deal			Strategic alliance	Target in R&D-intensive industry		
	No	Yes	Total		No	Yes	Total
No	16,882	7,271	24,153	No	21,437	2,716	24,153
Yes	174	134	308	Yes	256	52	308
Total	17,056	7,405	24,461	Total	21,693	2,768	24,461
χ^2	25.88***			χ^2	9.63**		

Strategic alliance	Cross-border deal			Strategic alliance	Deal in the United States		
	No	Yes	Total		No	Yes	Total
No	19,619	4,568	24,187	No	10,716	11,131	21,847
Yes	242	66	308	Yes	186	89	275
Total	19,861	4,634	24,495	Total	10,902	11,220	22,122
χ^2	1.28			χ^2	37.53***		

Strategic alliance	Cultural distance[b]			Strategic alliance	Political distance[b]		
	Low	High	Total		Low	High	Total
No	1810	1801	3,611	No	2,220	2185	4,405
Yes	35	28	63	Yes	30	36	66
Total	1845	1829	3,674	Total	2,250	2,221	4,471
χ^2	0.73			χ^2	0.64		

[a] $*p < .05$, $**p < .01$, $***p < .001$.
[b] Includes only cross-country deals.

why we observe such a scant use of staging in M&A. First, alliances are hybrid governance solutions that can bring about a host of problems for the parties involved. Namely, the different incentives held by a partner may raise monitoring costs aimed at reducing opportunistic behavior that would likely surface in these transactions (i.e., Williamson, 1985). For instance, a partner firm may disrupt the resource sharing intended by an alliance to extract private gains in excess of what was bargained for (e.g., Hamel, 1991; Khanna et al., 1998). Alternatively, suppose that the right to buy out a partner at a later time is already built into the alliance. To the extent that the managers of the targeted company find the follow-on acquisition attractive, they may engage in a behavior that maximizes the likelihood of said deal, even when doing so may result in misrepresentation of the value of their firm or in decisions that run against the long-term interest of the alliance (Datar et al., 2001). These sorts of problems represent important drawbacks to staging acquisitions. In fact, although staging may well reduce the information asymmetry problem faced by acquirers in M&A, as we argued previously, this approach also introduces the risk of moral hazard and ultimately reduces the overall attractiveness of this tactic.

A second reason why staged investments may find little use in practice is that the learning expected from the alliance preceding the acquisition is related to the type of alliance chosen by the prospective acquirer. For example, alliances that are based on licensing and other arm's-length agreements often allow for low levels of learning (Porrini, 2004). In contrast, alliances that call for reciprocal equity purchases, resource sharing, and joint decision making let a future buyer learn a great deal about the targeted firm, its markets, and its competitors. Thus, it is apparent that there exists substantial heterogeneity with respect to the learning opportunities embedded in alliances, depending on the many features that these agreements can take on (Piaskowska & Barkema, 2007).

As a result, the attractiveness of staging acquisitions through alliances might well depend on the kind of preliminary agreement that a prospective acquirer is able to strike. The paradox of this logic is that as a prospective acquirer shifts from market-based to hybrid solutions along the governance continuum (from non-equity alliances to equity joint ventures, for example), the benefits of staging become less and less tangible, because more significant injections of capital and resources are required in hybrid solutions. Therefore, the advantages of staging with respect to lowering adverse selection problems and limiting risky early commitments are less prominent when buyers tiptoe into an investment and more so when they use a more aggressive approach. Unfortunately, this predicament might defeat the very purpose of staging, or at least severely cripple its overall attractiveness for buyers.

Third, firms may shy away from staged investments because they introduce obvious delays in the process of synergy creation. Often firms engage in M&A to create synergistic gains with a target and improve their competitiveness (e.g., Larsson & Finkelstein, 1999; Seth, 1990). Acquisitions can also represent the most time-effective way of promptly penetrating a market and securing first-mover advantages for firms (Lieberman & Montgomery, 1998). These strategic motives represent two main reasons why we observe M&A activity globally (e.g., Seth, Song, & Pettit, 2000).

However, when firms enter into an alliance as a preliminary step to an acquisition, they inherently deny themselves the opportunity to gain full access to key resources and capabilities that may ultimately drive their competitive advantage (e.g., Barney, 1986; Rumelt, 1984; Wernerfelt, 1984). From the perspective of the resource-based view of the firm, for instance, the upside of staging acquisitions may not offset the disadvantages of this approach. As another illustration, when firms hold innovative technologies that offer immediate growth opportunities, they may not be in a position to either delay acquisitions or otherwise put up with the inefficiencies of staging (e.g., timing of entry and lack of control over the target resources). Therefore, R&D-intensive firms that seek to leapfrog the market, as well as "born globals," might also shy away from this approach. Thus, depending on the nature of competition in the marketplace, certain firms might ultimately not find staging a viable path to corporate growth.

From a contingency theory perspective, staging might also be a double-edged sword. On one hand, implementing flexible governance structures as antecedents to acquisitions might allow buyers to adjust to shifts in the environment more efficiently (e.g., Ariño & de la Torre, 1998; Koza & Lewin, 1998). However, the lack of control over the target might also hinder buyers' ability to take prompt actions to confront changes. Furthermore, the value of the preliminary alliance might also fluctuate as a function of external conditions and the relative competitiveness of eventual partners as well as other firms in the marketplace. Clearly, in highly volatile settings, the viability of staging may be compromised to the extent that this two-step approach to M&A depends on an early set of assumptions that may not hold when the actual acquisition is to take place farther down the line.

Another reason for the limited use of staged investments in M&A may be tied to their ineffectiveness as a tool to grant acquirers the flexibility of real options. One of the most fundamental assumptions of real options theory is that for the most part, real options can be compared to financial options. However, it is plain to see that there are important distinctions between the two (Krychowski & Quélin, 2010). Financial options depend on an underlying security with a value that can be easily tracked over time. In contrast, the value of a real option in a staged investment depends on the synergies realizable through the joint union of the two firms partaking in the deal. In turn, these synergies are affected by these firms' interaction with a (likely) shifting external environment. Therefore, with real options the sources of variance are manifold and far more difficult to track—and as a result, the ex ante valuation of these instruments represents an extremely difficult managerial challenge, making any serious attempt at it unlikely to succeed (Triantis & Borison, 2001). It is not surprising that when asked about their ability to value the many potential options inherent in a company, managers characterize this task as close to impossible (Damodaran, 2005).

The faulty analogy between financial options and staged investments in M&A as real options also emerges with respect to the added flexibility often attributed to financial options. Namely, in light of changing conditions, financial option holders may decide to exercise early and acquire the underlying asset or sell the option on the market. Staged investments in M&A, however, do not confer as much flexibility to buyers. First, real options in alliances typically set a specific time at which a firm holds the right to buy out its alliance partner. In this sense, real options in staged investments are not the same as "American"-style financial options. Second, selling one's stake in an alliance is a very different proposition from selling a call option in financial markets, because real assets are not nearly as liquid as financial ones and exit costs can be quite substantial for alliance partners. Therefore, firms may be reluctant to use a staged approach to M&A because of the difficulties in exiting an initial investment such as a strategic alliance (Tong & Li, 2011). These difficulties can be further exacerbated by various psychological and organizational factors, such as hubris and escalation of commitment, which can cause firms to resist exit and sustain real options well past their optimal point (e.g., Adner & Levinthal, 2004). Combined, these considerations also point at the downsides of using staged investments in M&A.

A last potential problem using staged investments is that firms may not be equipped to consider strategic alliances as a preliminary step toward acquisitions. This point was raised in an article by Dyer, Kale, and Singh (2004). In that article, the authors followed firms' corporate decisions over time and explained that since strategic alliances and acquisitions present different characteristics, most firms do not consider these approaches simultaneously as a conduit to a single strategic objective. More precisely, they interviewed executives at 200 U.S.-based firms and found that in 86% of the responses these firms had not developed specific criteria for choosing between alliances and acquisitions. Similarly, they had not considered forming an alliance as an alternative to their last acquisition in 76% of the cases. Ultimately, only 18% of the sampled executives even thought of alliances and acquisitions as similar ways to achieve common growth goals. Thus, in addition to the reasons for the limited use of staged investments listed above, it is also possible that firms may lack the appropriate organizational structure and managerial know-how to adopt a staged-investments approach in their M&A activity.

Aside from the considerations above, which might explain the scant use of staging, we need to point out an apparent weakness in our work that might also provide perspective on our results. Namely, it is possible that our proxy for the use of staged investments may not capture the full spectrum of ways in which these tools can be incorporated in M&A. We followed prior work in choosing this proxy, but conceivably firms might be able to hedge the uncertainty surrounding their investments in other ways, too. For example, from a real options theory point of view, an obvious way in which our proxy falls short in describing the complete use of staged investments in M&A is that it does not take into account the exit alternative embedded in strategic alliance formation. In plain words, we were not able to empirically track those alliances that were dissolved because their participants realized that they wanted to change course. Similarly, alliances that simply remain such and do not progress to acquisitions are also not considered in this paper. It is not difficult to argue that backing away from a deal or doing nothing are upshots consistent with a staged investment approach.

Another possible application of staged investments—although perhaps a bit more far-fetched—is the fact that firms may be able to draw from their networks of partners to gather secondhand information on a prospective target, thereby reducing the uncertainty about a prospective target (e.g., Hagedoorn & Sadowski, 1999; Mitchell & Singh, 1992; Mody, 1993; Nohria, 1992; Porrini, 2004). Alternatively, they may have one of their insiders sit on the board of the target firm and gather familiarity with it before deciding whether to move forward with a purchase. Conceivably, these and other steps might also represent valid proxies for the use of staged investments in acquisitions, although this determination is outside the scope of our work. Based on these points, our results may represent a limited account of the relationship between staged investments and acquisitions—namely, an account of the option to escalate a firm's commitment to a full-blown acquisition. However, it is possible that examining other ways to implement staged investments in M&A could provide a more complete picture of their overall use in this setting. Clearly, future work that examines this possibility would be highly beneficial at advancing our understanding of this topic.

CONCLUSIONS AND CONTRIBUTIONS

Our results offer strong evidence that although attractive in theory, the applicability of staged investments in M&A is limited at best. This result holds over the entire 16 years of our sample and even when we consider only acquisitions with characteristics ideal for staging. Several contributions and normative implications stem from this work. The first is that the scarce use of strategic alliances before M&A might represent an area of opportunity for firms. At face value, staged investments hold valuable properties in terms of risk reduction, learning, and flexibility (McGrath, Ferrier, & Mendelow, 2004). It is possible that managers have not fully understood the appropriate use of this tool in the context of M&A. The persistent poor track record of acquisitions suggests that firms have yet to master acquisitions as a growth vehicle. Perhaps managers could consider broadening the scope of their strategic analyses and contemplate the sequential use of alliances and acquisitions. This might involve an internal reassessment of how these two corporate events are considered vis-à-vis each other. Specifically, while most firms allocate acquisition and alliance responsibilities to separate teams (i.e., Dyer et al., 2004), it may be appropriate for these firms to bring together these capabilities and think of them in a more complementary way.

An alternative conclusion to be drawn from this paper is that the 1.26% of acquisitions preceded by strategic alliances represents a fair reflection of the usefulness of staged investments in M&A. In that case, it would be important to reassess the importance of the theories supporting this approach in the economy of firms' corporate development and possibly redirect scholars' and practitioners' resources toward the understanding of more useful frameworks. We have attempted to provide plausible explanations for the results we present, but clearly more theory-based work is needed to explain the links between cause and effect on this topic. In turn, this work could point managers to a more calibrated use of staged investments in acquisitions, or even point them in an altogether different direction.

At the broadest level, either of the two hypotheses above—that practitioners fail to understand the benefits of staging predicted by the theory, or that the theory overstates the practical benefits of staging—brings to the fore an important issue in business research. Namely, there is an apparent lack of communication between academics and practitioners, and this can result in one of two undesirable outcomes: First, practitioners who neglect to take into account the value of academic work might miss out on the opportunity to develop new skills and improve their companies' and their own competitiveness. While not always within the reach or the immediate interest of practitioners, academic research often brings a great deal of perspective on business topics. For example, research in M&A has offered a formal account of the large number of sociological, economic, and behavioral considerations that can affect how acquisitions form. Given the width and depth of this research and the expertise brought by the scholars who have helped to build it, it is plausible that managers might gain substantially from informing themselves of this ever-developing body of work.

Second, we must recognize the possibility that our theories exaggerate the practical net upside of staging in acquisitions. From a broad perspective, departing from the specific topic tackled in this paper, this possibility reminds us that it is crucial that our work as business scholars be closely connected with the settings we use as the backdrop for our investigations. In contrast, sometimes research is done in a vacuum, and the upshot of this disconnection with the real world we study is equally disconnected propositions. While often aesthetically appealing, theory that does not find true applicability in practice is a luxury business schools should probably not afford. In contrast, theory that is proven to hold predictive power and that explains the specific conditions under which certain outcomes are to be expected can be immensely valuable to all stakeholders. Thus, as business scholars we should strive to connect with practitioners to improve on our understanding of the challenges they face and hopefully help shed light on these challenges. This endeavor will also provide opportunities to refine our research agenda and ask increasingly more relevant questions in our work.

DATA APPENDIX

Our basic descriptive analysis was obtained by combining a number of separate datasets. First, we drew from the M&A module of the Securities Data Corporation database to obtain all the completed transactions—domestic and international—that were coded as full and majority acquisitions (i.e., acquisitions in which the stake acquired was greater than 50%) and mergers. We left out deals coded as Carveout, Bankruptcy, Privatization, Buyout, Restructuring, Litigation, Liquidation, or Recapitalization. Furthermore, we did not include deals coded as Not Applicable, owing to our inability to resolve the precise nature of the transaction. The sample includes M&A transactions ranging from 1995 to 2010. It should be noted that we did not discriminate between friendly and hostile takeovers, although subsequent analyses (not shown) reveal that this distinction does not change the interpretation of our results.

The second data collection effort was aimed at obtaining information on preliminary alliances that might have involved the parties to the acquisitions above. We drew from the alliance module of SDC for this task. We did not leave out any type of cooperative agreement between firms, and the only restriction we applied was that the alliances had to include two partners. Therefore, we excluded agreements involving three or more firms, which are less common. The alliance types range from arm's-length agreements to shared-equity investments and joint ventures and cut across all purposes (R&D, operational and logistical, distribution, marketing, etc.).

We merged the two datasets above, looking for firms that engaged in an alliance during the five years before a focal acquisition. It should be noted that we do not provide a separate analysis of equity and non-equity alliances preceding M&A because the former are so rare as to make the analysis virtually pointless.

The subsequent analysis and additional breakdowns we provide are performed using additional data sources. For instance, the data on the cultural characteristics of countries are obtained via the work of Geert Hofstede and the computation of the cultural distance developed by Kogut and Singh (1988). The political risk data are obtained from the International Country Risk Guide, a specialized agency that collects country-by-country and year-by-year data on a host of political risk indicators, including government stability, socioeconomic conditions, investment profile, internal and external conflict, corruption, military in politics, religious tension, law and order, ethnic tensions, democratic accountability, and bureaucracy quality. Additional details on the methods followed by TechAmerica Foundation are available at http://www.techamericafoundation.org/content/wp-content/uploads/2013/06/TechAmerica-Foundation-Cyberstates-2013-NAICS-Tech-Definition.pdf. The inter- versus intra-industry transaction breakdowns were coded by comparing the four-digit SIC codes of the acquirer and the buyer to a given M&A deal. Specifically, when the two codes matched the transaction was coded as intra-industry; when they did not it was coded as inter-industry. Similarly, when the headquarter countries of buyers and sellers matched, the deal was coded as domestic; when they didn't it was coded as cross-border. Finally, we coded as R&D-intensive targets the ones operating in the following SIC codes: 3571, 3572, 3575, 3577, 3578, 3579, 3651, 3652, 3661, 3663, 3669, 3671, 3672, 3674, 3675, 3676, 3677, 3678, 3679, 3812, 3821, 3822, 3823, 3824, 3825, 3826, 3827, 3829, 3844, 3845, 4812, 4813, 4822, 4841, 4899, 7371, 7372, 7373, 7374, 7375, 7376, 7377, 7378, and 7379. These codes reflect the definitions provided by TechAmerica, which is the largest high-tech industry advocacy organization. The codes include industries such as software, medical devices, semiconductors, and telecommunications.

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Roberto Ragozzino (roberto.ragozzino@esade.edu) is an Associate Professor of Strategy at ESADE Business School—Ramon Llull University in Barcelona, Spain. His research in the area of corporate strategy has appeared in *Strategic Management Journal*, *Organization Science*, *Journal of Management*, and others. He teaches strategy at the master and executive levels.

Caterina Moschieri (caterina.moschieri@ie.edu) is an Assistant Professor of Strategy at Instituto de Empresa (IE) in Madrid, Spain. Her research on M&A and divestitures has appeared in *Strategic Management Journal, Academy of Management Perspectives, Long Range Planning*, and others. She teaches strategy at the master and executive levels.