

**INTERNATIONAL ACQUISITIONS AND INTERNATIONAL  
COMPETITIVENESS OF U.S. FIRMS**

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by

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August 2013

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**ABSTRACT**

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Doctoral Advisory Committee Co-Chairs: Dr. Jay J. Choi & Dr. Arvind Parkhe

This dissertation studies international acquisitions mainly in terms of their impact on firm competitiveness and CEO compensation. International acquisitions have been used extensively by multinational companies for internationalization purposes. They are the main drivers of foreign direct investment flow around the world. The large number of international acquisitions and the amount of money used for them make these acquisitions important corporate strategies to examine. This study explores from different perspectives the implications of international acquisitions for firms.

In the first chapter, we assess the impact of international acquisitions on the competitiveness of companies. Competitiveness has been studied mostly at the country and industry levels; firm-level competitiveness has been understudied, and the impact the organizational choices of companies have on competitiveness have not been fully explored. This study attempts to fill this gap by examining the impact of international acquisitions on firm competitiveness. Building on the resource-based view, internalization theory, agency theory and managerial hubris we propose that international acquisitions enhance competitiveness. We also develop a competing hypothesis about the

negative impact of IAs on competitiveness using agency view, integration issues, and information asymmetry perspective. We test our model with a sample of acquisitions between 1985 and 2007. We find that international acquisitions have a positive effect on firm competitiveness. We also find variations in the impact of international acquisitions across different dimensions of competitiveness and benchmarks. We also investigate factors that affect the success of international acquisitions. Our evidence suggests that the acquirer's resources and capabilities play a crucial role in the success of international acquisitions.

In the second chapter, we explore the association between acquisitions and CEO compensation from two different perspectives. Agency theory, which assumes a conflict between shareholders' and executives' interests, predicts a positive impact of acquisitions on CEO compensation. In contrast, subscribers of stewardship theory question the assumption of a conflict of interest and propose that acquisitions have no impact on CEO compensation. We test the prediction of agency view with a sample of U.S. acquisitions for the period 1995 to 2007. Our results provide evidence for the agency view. Unlike prior studies, this study distinguishes between international and domestic acquisitions, and assesses their impact. We find that international acquisitions have less of a positive effect on CEO compensation than domestic acquisitions. Finally, we investigate some deal characteristics and show that the relatedness of the acquirer and the target influences post-acquisition CEO compensation.

We provide an in-depth literature review of acquisition research in the third chapter. In addition to discussing the antecedents, outcomes, and success/failure factors of acquisitions in general, we focus on international acquisitions as well. We discuss the

differences between international and domestic acquisitions and review the literature of international acquisitions as a mode of entry. More important, we identify theoretical and methodological gaps, unanswered questions, trends, and understudied areas in acquisition research. Building on these, we provide recommendations and directions for future acquisition research.

Overall, this study examines the implications of international acquisitions for firms. Our findings indicate that international acquisition is an important phenomenon that influences the competitiveness of firms and governance through effects on CEO compensation. One of the major contributions of this study is to show that international acquisitions have different characteristics than domestic acquisitions. Our study also identifies issues that need to be resolved in acquisition research and propose ways to address those issues. Our study adds fresh insights to the literature on M&As, competitiveness, and CEO compensation.

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**CHAPTER 1**

**HOW DO INTERNATIONAL ACQUISITIONS AFFECT THE  
COMPETITIVENESS OF COMPANIES?**

**Abstract**

Although competitiveness has mainly been examined at the country or industry level, we are starting to see more studies at the firm level. Competitiveness has become increasingly important for companies, due to the intensity of global competition. Despite the increased attention given to determinants of firm-level competitiveness, the organizational choices of companies have not been fully explored. International acquisitions (IAs) are important strategic initiatives that have been used extensively by companies. In this study, we examine the IA, which is a frequent organizational choice, in the context of competitiveness, using control sample methodology. In addition to enabling us to see the impact of IAs on competitiveness, this study contributes to the Merger and Acquisition (M&A) research, in light of inconclusive evidence about the outcomes of IAs. We test our model with a sample of 3,565 IAs for the period between 1985 and 2007. Unlike many studies in the literature, we find that IAs enhance the competitiveness of acquirers compared to companies with no acquisitions. We also find variability in the impact of IAs across different aspects of competitiveness. We examine the underlying success factors of IAs, and our findings indicate that the resources and capabilities of the acquirer and complementarity of these are important in explaining the success of IAs. However, we do not find evidence about the impact of country-level

factors. Our results were robust in regard to the different benchmarks we used, and we also achieved consistent results when we used two-stage least squares estimation.

## **Introduction**

Competitiveness is a popular concept and has received attention in different streams of literature. Although several studies on competitiveness have been published, most have examined the issue at the macro rather than the micro level (Gadhoun, 1999), more specifically at the country or industry level and there are fewer studies explicitly examining competitiveness at the firm level. Some of the macro competitiveness indicators that have been used are gross domestic investment, savings and consumption, import-export levels, purchasing power parity, gross domestic product (GDP), and the productivity of the labor force (Zanakis & Becerra-Fernandes, 2005). Porter's studies (e.g., Porter, 1980, 1990) are among the best-known studies related to competitiveness, and they introduced firm-level strategy as a crucial determinant of competitiveness. According to Porter, "it is the firms, not nations, which compete in international markets" (Porter, 1998). By drawing on strategic management and his earlier studies (Porter 1980, 1985), Porter added new insights and dimensions to the competitiveness literature, notably the concept of firm strategy. This was a breakthrough vis-à-vis neoclassical competitiveness models, which usually consider macro-level variables at the expense of firm-level analysis. Developing appropriate strategies for a firm is important, not only for its own performance, but also relative to its competitors (Herrmann, 2008). One of these strategies involves the organizational choice decisions made by companies, including mergers and acquisitions (M&As).

M&As are significant strategic choices especially in light of increased global activity over the last decade (Boeh, 2011). M&A activities peaked in 2007, with more than 45,000 transactions at a total value of almost 5.5 trillion USD (United Nations Conference on Trade and Development (UNCTAD), 2008). 47% of all M&As were international deals, and of the different forms of foreign direct investment (FDI) throughout the world, international acquisitions (IAs) have been among the most substantial, with 89.3% of total FDI in 2007 (UNCTAD, 2008). Recent reports also show that the number of IAs is continually increasing (UNCTAD, 2011). The large number of acquisitions and the amount of money involved make M&As an important corporate strategy and warrant an examination of underlying motives and consequences. A firm's desire to increase its value by creating synergies is one of the primary motives for an M&A. Nevertheless, there is no consensus regarding their outcomes. Some studies have found M&As as value destructing (Spyrou & Siougle, 2007; Billet & Qian, 2008; Ismail, 2008; Agrawal & Jaffe, 2000; Agrawal, Jaffe, & Mandelker, 1992; Datta, Pinches, & Narayanan, 1992). This camp suggests that the failure rate of acquisitions can be as high as 83% (e.g., Craninckx & Huyghebaert, 2011; KPMG, 1999; King, Dalton, Daily, & Covin, 2004; Moeller & Schlingemann, 2005). Nevertheless, we have seen an increasing number of M&As, which creates a paradox. CEO overconfidence, agency costs, and managerial hubris have been widely implicated in the finance literature to explain this paradox (e.g., Billet & Qian, 2008; Ismail, 2008). On the other hand, other studies suggest a positive impact (Bernad, Fuentelsaz, & Gomez, 2013; Chari, Ouimet, & Tesar, 2010; Faccio, McConnell, & Stolin, 2006; Fuller, Netter, & Stegemoller, 2002). Hence, evidence regarding the outcomes of M&As is mixed, and the literature is inconclusive in

regard to the outcome of M&As. Some recent reviews of acquisitions also state that despite the extensive body of research on acquisitions, their real impact and the underlying factors for their success remain poorly understood (e.g., Rotting, 2009). Despite the increasing importance of competitiveness, acquisitions have not been examined in competitiveness context. We believe that this is an important gap that needs to be addressed due to the importance of acquisitions and competitiveness. In this study, we attempt to help fill this gap by approaching the IA as a determinant of competitiveness and by examining its impact on competitiveness. In other words, this study examines international acquisitions in competitiveness context, and explores how they affect the competitiveness of companies.

It has been frequently stated by the CEOs of acquiring firms that the acquisitions are necessary to keep their firms competitive, both in the short and the long term. After one of the largest and most popular acquisitions, Larry Page, CEO of Google, said, “Our acquisition of Motorola will increase competition by strengthening Google’s patent portfolio, which will enable us to better protect Android from anti-competitive threats from Microsoft, Apple and other companies” (Larry, 2011). Similarly, after the merger of Tarpley & Underwood and Atlanta-based Windham Brannon, CEO David Kloess said, “The merger was essential to enable the firm to remain competitive in the Atlanta marketplace. It positioned the firm with a scale of resources necessary to grow” (Public Accounting Report, 2012). Acquisitions are strategic actions that companies use to compete better. They sometimes can be a response to a competitor’s action, or used as a strategy to prevent a competitor’s becoming stronger, as in the case of Google’s acquisition of Motorola. Acquisitions, as important strategic actions by companies to

outperform their rivals, have a high potential to be a determinant of firm competitiveness. Moreover, competitiveness is related to the performance of firms relative to their competitors. Acquisitions are complex events and their impact can be felt in the long-run. Competitiveness is more related to long-term than the performance, which assess how the company performs for a fiscal year. Therefore, acquisitions should be examined in the context of competitiveness in order to understand their real impact. In this study, we take a significant step towards filling this gap, examining the impact of international acquisitions on the competitiveness of US industrial firms for the period 1985 to 2007.

According to the resource-based view (RBV), having appropriate resources and capabilities is the main source of competitive advantage. IAs can provide the resources that companies need and which they cannot develop by themselves or obtain through market transactions. Knowledge about local markets, networks of suppliers, customers, ties to political players, and technological know-how are some of resources and capabilities that IAs can provide to companies, which in turn enhances competitiveness. Another way that acquirers benefit from IAs is through the capabilities that they develop. Acquiring a foreign company from a different environment increases diversity within the firm. If managed well, this diversity can enhance the innovativeness and creativity of the acquirer. Valuable knowledge and practices can be transferred to the rest of the company and leveraged for competitiveness of the firm. IAs can benefit acquirers in terms of location-specific advantages as well, such as accessing factor endowments that are abundant in the local market, being closer to target customers, and so forth. Acquisitions are also viewed as a tool of market discipline for poor managers. Acquirers target mismanaged firms, and the performance of the acquired firms can increase as a result of

better management skills, which can also be thought of as managerial synergies.

Acquisitions create synergies at the operational and financial levels as well. Acquirers improve their operations as a result of economies of scale and scope. At the financial level, an acquirer has better financial resources, which can be used for high potential projects at the acquired company. Combined firms also have access to more financial resources at a lower cost. Based on these views, we hypothesize that IAs enhance the competitiveness of acquirers.

There is an alternative view about IAs, however, which posits that they have a negative impact on acquirer performance. According to agency theory, which is one the dominant view in this camp of literature, CEOs have interests that conflict with those of shareholders and use acquisitions for their own interests at the shareholders' expense. Based on that, it is argued that corporate executives use IAs to build international empires (e.g., Bartlett & Ghoshal, 1991; Kogut & Zander, 1993), and as a result, IAs are viewed as value destructing.

Another negative view about IAs concerns the post-acquisition integration problem. The integration of two companies is a very complex and difficult-to-manage process. In IAs, the acquirer and target are from different environments, and there are institutional differences between home and host countries. These institutional differences between cultures, legal environments, accounting standards, and so forth can increase transaction costs (Markides & Ittner, 1994; Datta & Puia, 1995; Reuer, Shenkar, & Ragozzino, 2004) and impede the creation of synergies in the integration process.

Information asymmetry, which is manifest in IAs, is another factor that inhibits the synergy creation. Uncertainties raised from information asymmetry affect the pre-

acquisition period in terms of due diligence, valuation of the target, and overpayment. Information asymmetry also makes the integration process more difficult. It is higher in IAs than in other types of acquisitions, as the acquirer and target are from two distinct countries, which lowers the likelihood of success. Based on the negative aspects of IAs that are stated, we develop a competing hypothesis which asserts that IAs reduce the competitiveness of companies.

In the previous discussion, we discussed how IAs affect firm competitiveness. However, not all IAs have the same outcomes, and their success or failure depends on a number of factors. Therefore, there has been a significant amount of research on firm- and country-level success factors for IAs, but factors related to the resources and capabilities of acquirers have been inadequately studied. In this study, we use the resource-based view to provide insight into understudied success factors of IAs, in terms of the resources and capabilities of acquirers.

Companies establish their operations in their home markets and enter new markets to leverage the products they develop at home and explore new opportunities (Vernon, 1966). In light of resource-based theory, we believe that companies need to have the necessary resources and capabilities to be successful in IAs. Intangible resources such as technology and a good brand name are among the most valuable, rare, and inimitable resources that help companies to differentiate themselves. IAs allow companies to leverage their resources and explore opportunities in new markets. These resources are also used to complement the resources of target companies and create synergies. However, having these kinds of resources alone is not enough to create synergies. First of all, firms need to have the capability to use these resources effectively and complement

them with target resources, and even before that, companies need to find the right targets that have complementary resources. In the context of IAs, one of the most important capabilities is acquisition experience. It can be used to find the right target, and also lower the problems associated with the post-acquisition integration process, which has been argued to be one of the factors causing failures in IAs. In order to create the desired synergies, the resources of the acquirer and target should complement each other as well. For instance, the technology and the brand name of the acquirer can create value when combined with the local knowledge and production capabilities of the target. Otherwise, duplication of resources would result in a lot of redundancy. We used the relatedness of the acquirer and target as a proxy for the complementarity of resources, as it allows companies to create synergies more effectively.

As a result of an IA, not only do the two companies marry, but also the environment of these companies, their home and host countries, become related to each other. Therefore, factors related to the host country are also worth examining in terms of the success of IAs. In this study, we also want to explore the impact of host country-related factors on the success of IAs. Institutional theory emphasizes the importance of institutions when making FDI. There should be a fit between the institutional environments of home and host countries in order to create expected synergies. Cultural distance is among the most important factors that affect the fit between two different environments. When the cultures of two countries are too different, interactions between the acquirer and target become much more complex and difficult to manage. The problems at the post-acquisition integration process due to cultural differences make it

more difficult to create synergies. Therefore, the cultural distance between the home and host countries is an important factor in the success of IAs.

We tested our hypotheses with a large sample of acquisition between 1985 and 2007. Unlike many previous studies in the literature, we examined IAs from the perspective of competitiveness. The results of our analysis suggest that IAs have a positive impact on the competitiveness of companies compared to companies that do not have IAs. We also find that the impact of IAs varies across different dimensions of competitiveness. Moreover, our results reveal that intangibles and the complementarity of resources have a positive effect on the success of IAs. The impact of the capabilities of the acquirer, which was measured by acquisition experience, was mixed. Acquisition experience has a positive impact on profitability and market value, but a negative impact on labor productivity and market share. This shows that the capabilities can have different impacts on the various dimensions of performance. Finally, we could not find much support for the country-level variables. In general, our results indicate that resources and capabilities matter for the success of IAs, which contributes to the M&A literature. In order to check the robustness of our results, we used two-stage least squares (2SLS) estimation with instrumental variables. The results of 2SLS estimation were consistent with the main results. In another robustness test, we examined the impact of IAs in comparison to domestic acquisitions and found that their impact is less positive. We also compared the impact of firm-level variables on the outcomes of acquisitions between IAs and domestic acquisitions, and found that the impact of success factors is not the same between the two. For instance, acquisition experience has a more positive effect on IAs than on domestic acquisitions, which shows the greater importance of

experience for IAs. This provides new insights to M&A research as well, which we believe is an important contribution.

This paper stands at the intersection of research on M&As (particularly IAs) and competitiveness, and contributes to the literature in a couple of ways. First, we add to the competitiveness literature by examining the impact of IAs, which is an important organizational choice strategy. This is a commonly used and important strategic initiative by companies, and we shed light on whether an IA can be a determinant of competitiveness and on how much of an impact it can have. To the best of our knowledge, there has been no in-depth academic study that examines IAs as a determinant of competitiveness. This study also makes a strong empirical contribution to understanding the M&A paradox by examining IAs in a different light: competitiveness. Although most of the studies in the M&A research suggest that acquisitions fail, companies increasingly continue to use them. We show that IAs are not necessarily failures when examined from the perspective of competitiveness. Our study also contributes in terms of explaining variations in the outcomes of IAs. We show that the resources and capabilities of the acquirer and the complementarity of resources between the acquirer and target are critical to the success of IAs.

The rest of the paper proceeds as follows: The next section contains the theoretical background and literature review, and develops the hypotheses. Then, we discuss the data and the research methodology, followed by the results. We finish with a discussion of implications, limitations, suggestions for future research, and concluding remarks.

## **Literature Review & Hypothesis Development**

### ***Mergers and Acquisitions in Competitiveness Context***

Competitiveness is a term that has been applied to different business and economic circumstances. Pitelis (2009) defines it as the ability of an economic entity to outperform its “peer” group, in terms of a shared objective. Competitiveness has been studied at different levels and defined in various ways. Most of the studies in this field examined this notion at the country and industry level. For instance, Porter (1990) applied a methodology referred to as “the national diamond,” and proposed four factors in a nation that create competitive advantage, which are: factor conditions; a firms’ strategy, structure, and rivalry; related and supporting industries; and demand conditions. The four dimensions of Porter’s diamond’s determine the productivity, and hence the competitiveness, of a nation. However, it is the firm that is at the forefront of international competition, and the literature about firm-level competitiveness has started to receive some attention. Porter (1980, 1985) employs several microeconomic indicators, such as the bargaining power of buyers and suppliers, and the threat of new substitute products, to explain the competitiveness of companies. Similarly, firm competitiveness has been explained mostly by firm-level variables in the management literature, as in the case of the resource-based view, which suggests that firms’ unique resources and capabilities are sources of competitiveness (Barney, 1991; Barney & Clark, 2007). Pursuing effective strategies that help the company to outperform its rivals (Herrmann, 2008) is crucial for competitiveness. IAs, a commonly used strategy, have a great potential to affect the competitiveness of firms, but their impact on competitiveness has

not been explored. In this study, we explore the impact of the organizational choice to pursue an IA on competitiveness.

There is a large body of work in the M&A literature addressing antecedents, outcomes, success factors, and so forth. Evidence about the impact of M&As is equivocal. Some studies found that the value of acquirers usually deteriorates following acquisitions (Spyrou & Siougle, 2007; Billet & Qian, 2008; Agrawal, et al., 1992; King, et al., 2004). In a recent study, Craninckx and Huyghebaert (2011) argue that M&A failure rates amount to 50%. In this literature, poor M&A performance has usually been associated with managerial agency problems, CEO overconfidence, and hubris. In contrast, some others have found a positive impact of M&As (Bernad et al. 2013; Chari, et al., 2010; Faccio, et al., 2006; Fuller, et al., 2002). Bernad et al. (2013) explain the divergence of outcomes in the M&A literature in terms of the samples used, which differ in terms of the type of acquisition, the region, et cetera. For instance, Huyghebaert and Luypaert (2013) studied non-serial acquirers in Europe and found a positive market reaction. It has also been found that markets react positively to the acquisition of privately held targets (Fuller, et al., 2002; Faccio, et al., 2006). Kiyamaz (2009) suggests that there are also differences in terms of wealth gains to acquirers with respect to industry classification and the geographic location of target companies. In sum, the evidence about the outcomes of international acquisitions is inconclusive. Reviews about this area also suggest that the M&A research is incomplete (e.g., Cartwright & Schoenberg, 2006). In their meta-analysis, King et al. (2004) also state that “changes to both M&A theory and research methods may be needed” (King et al., 2004, p. 188). We

aim to contribute to the M&A research by introducing competitiveness as a context for examining acquisitions.

There are several reasons for examining international acquisitions in the context of competitiveness. Acquisitions are complex events, and they can have effects on different dimensions of performance. Competitiveness as a multidimensional concept (Ambastha & Momaya, 2004) is the most appropriate way to examine acquisitions. Acquisitions are strategic actions that directly affect a company's competitive position relative to competitors. Therefore, companies take rivals into consideration when they develop their acquisition strategies. They weigh the value of an acquisition for outperforming the rivals by using acquisition as a response to competitors' actions or as a pre-emptive move in anticipation of a competitor's action. In one of the few studies that look at rivals' reactions to acquisitions, Akdogu (2009) found negative market returns for rivals in response to acquisitions, which provides evidence for a comparative advantage hypothesis about acquisitions. One of the key attributes of competitiveness is benchmarking, which is conducted as assessing competitiveness relative to competitors. Therefore, acquisitions should be examined from the perspective of competitiveness to see their real impact. Without benchmarking performance against that of competitors, it is difficult to assess the impact of an acquisition.

### ***Impact of International Acquisitions on Competitiveness***

There are different views regarding the impact of IAs. According to the resource-based view, firms engage in acquisitions in order to obtain otherwise non-marketable resources and capabilities (James, 2002). Firms can increase their competitiveness by acquiring the valuable resources of targets. The resources that companies need in

different countries, such as knowledge about local markets, networks within that market, operating practices, etc., are more difficult to develop internally. IAs are effective ways to acquire the knowledge and experience necessary to operate in a different environment. IAs also allow firms to obtain external advanced technology (Jones & Lanctot, 2001), to buy reputational assets and the loyal customers of a local firm (Duarte & Garcí'a-Canal, 2004), and enjoy the reputation the firm has established in the market (Banbury & Mitchell, 1995). As a result, acquirers benefit from the transfer of the reputation and the customer base of the target company (Capron & Hullan, 1999; Saxton & Dollinger, 2004). All these resources provide the acquirers with novel and effective ways to compete in a marketplace (Budd & Hirmis, 2004).

Another outcome of IAs is an increase in innovativeness. R&D expenses and innovativeness are found to increase after acquisitions (Bertrand, 2009), which are factors crucial to competitiveness (Oglabina, Faria, & Cardoso, 2002). Sevilir and Tian (2011) found increased innovation after acquisitions, measured by the number and the novelty of the patents, and showed that the positive link between M&A activity and innovation is as significant as the link between R&D spending and innovation. The main driver of enhanced innovativeness is the synergies that are created. Local companies have technology and opportunities that make them attractive candidates for acquisition. However, they are usually smaller than the acquirer and have limited financing options. IAs create financial synergies that lower the cost of internal financing, compared to external financing (Raj & Uddin, 2013). Financial synergies can also be created via the increased size of the combined entity and better governance, which lower the cost of debt and equity. This enables the acquired entity to explore opportunities and enhance

innovativeness. Alliances with other companies, such as joint ventures, are another way to access resources and the capabilities of local companies. However, in these entry modes, the resources are shared, and companies do not have full control over them. Eclectic Paradigm (Dunning, 1981) suggests that the internalization of resources provides benefits to the companies, especially if either the product is very R&D-intensive or there is intensive advertising. IAs facilitate the internalization of localized resources and capabilities that are difficult to trade through market transactions and that take time to develop internally (Gubbi, Aulakh, Ray, Sarkar, & Chittoor, 2010).

IAs can also help companies develop capabilities that are important for competitiveness. They increase the diversity inside firms, and companies get more experience dealing with diversity after an IA, which increases competitiveness (Cox & Blake, 1991). Staples (2008) found that IAs result with more international boards, and these can constitute a competitive advantage for companies in terms of diversity management capability and internationalization.

Location-specific advantages make IAs very attractive, especially in terms of productivity, which is crucial to the competitiveness of companies (Porter, 1990). Economic factors account for half of the variation in the productivity of international companies (Pratten, 1976). The degree of production factor mobility across countries affects the choice of an IA, and firms' propensity to engage in IAs increases when a production factor is internationally immobile (Nocke & Yeaple, 2007). IAs increase companies' exposure to different macro environments and enhance productivity. Factor endowments are one of the advantages that this increased exposure provides to companies. They vary across countries, and affect production costs and productivity. IAs

in the countries with abundant factors provide companies with location-specific advantages (Dunning, 1981). Having access to lower-cost factors of production improves the productivity of acquirers and, hence, their competitiveness. These benefits are available to companies that use Greenfield investment instead of IAs; however, IAs allow firms to gain the benefits more quickly and gain first-mover advantages. According to Dunning (1981), another location-specific advantage is being close to the market served. Some of the effects of this geographical proximity are developing good relations with host government, improving the public image of the firm, and understanding customer needs better, especially in culturally distant markets. All of these location-specific advantages help companies improve their competitiveness (Shepherd, Silberston, & Strange, 1987). IAs enable firms to increase their proximity to markets and enjoy these location-specific advantages. Companies can enter the markets via Greenfield investment; however, existing knowledge / experience possessed by a target company about its local environment can help acquirers a lot, compared to companies that enter alone. Moreover, IAs enable acquirers to enter new markets faster than other entry modes, and they usually involve less risk than Greenfield investments (Datta & Puia, 1995; Vermeulen & Barkema, 2001).

Another way that IAs can improve the productivity of acquirers is through economies of scale and scope. Acquisitions are used as a way to redeploy assets in order to achieve the benefits of economies of scope (Haleblian, Devers, McNamara, Carpenter, & Davison, 2009), which results in a better utilization of assets. Restructuring takes place after most M&As, and some of the plants of the acquired companies are sold. Maksimovic, Philips, and Prabhala (2011) observed productivity improvements in the

retained plants relative to sold plants, which suggests that acquirers use restructuring to improve productivity. Operational synergies created after IAs help acquirers to be more competitive. One of the drivers of the operational synergies is a decline in costs as a result of joint purchasing and market power. Huyghebaert and Luypaert (2013) showed that the benchmark-adjusted ratio of operating costs to sales declines by 1.53% following an acquisition. IAs also can result in a transfer of resources from less productive firms to more productive firms (Breinlich, 2008), which can also enhance productivity. Better utilization of labor at the target company after an acquisition is another factor that can positively affect productivity (Fraser & Zhang, 2009). There is some empirical evidence to support the argument that acquisitions improve productivity (e.g., Siegel & Simons, 2010; Bertrand & Zitouni, 2008).

IAs can enhance the competitiveness as a result of managerial synergies as well. Manne's (1965) theory of corporate control posits that acquisitions are disciplinary actions that remove ineffective management. Uygur, Meric, and Meric (2013) find evidence for this theory, and show that acquiring firms tend to target mismanaged firms. Building on that theory, managerial synergies can be created as a result of IAs, especially if the acquirer's management is superior to that of the target (Raj & Uddin, 2013). Higher skills and capabilities on the part of the acquirer's management lead to better management of the target firm after the acquisition. The elimination of nonperforming managers is well received by the market and leads to increases in corporate value (Nagano & Yuan, 2013). For all these reasons, we hypothesize that IAs have a positive impact on competitiveness.

*Hypothesis 1a: International acquisitions enhance the competitiveness of companies.*

### ***An Alternative View about International Acquisitions***

Despite our proposition of the positive impact of IAs on competitiveness, we want to discuss an alternative view about the negative aspects of IAs. One of the dominant theories in finance is agency theory, which argues that CEOs' interests can be in conflict with shareholders' interests. Subscribers to the agency view posit that CEOs engage in acquisitions for their own benefit, at the expense of the shareholders. Seth, Song and Pettit (2000) found that 26% of IAs were initiated by managers for their own benefit instead of shareholders' interests. IAs increase the firm size and the complexity of the companies involved, and because CEO compensation is positively correlated with the complexity and size of the company, IAs have potential to increase CEOs' benefits. Therefore, IAs can be destructive if CEOs use them for their own benefit at the expense of shareholders' interests when there are high agency costs. Masulis, Wang, and Xie (2009) used the divergence between insider voting and the cash flow rights of managers as a proxy for agency costs and showed that when this divergence widens, managers engage more in value-destroying acquisitions. Consistent with this study, Matta and Beamish (2008) found that CEOs with more options and more of an equity stake in the company have less incentive to engage in IAs to protect their own wealth. In some cases, CEOs' interests are aligned with shareholders', but they overestimate their ability to improve the performance of the target. CEO's overestimation of their ability to generate returns after acquisitions, termed CEO over-confidence, also can result in value-destroying acquisitions (Malmendier & Tate, 2008). Managers can overestimate their

abilities after successful acquisitions, and companies suffer from this hubris in acquisitions that follow (Ismail, 2008).

The post-acquisition integration problem is a challenge that acquirers face, which might prevent the realization of synergies. The “process view” of M&As research (e.g., Haspeslagh & Jemison, 1991; Jemison & Sitkin, 1986) has pointed out that integration capabilities are crucial to the success of M&As. After IAs, people from different cultures, who speak different languages, work together, and these differences make it more difficult to manage the integration successfully. For instance, work alienation between individuals from the acquirer and the target has a negative effect on technology- and knowledge-sharing (Brannen & Peterson, 2009). This prevents the acquirer from realizing the desired synergies from the IA. Geographic distance also has a negative effect on communications between the acquirer and the target company and on the integration process. Differences in national contexts also affect the control of the acquired company after an IA. For instance, accounting standards in the host country can prevent the acquirer from conducting effective monitoring. Personal behavioral differences due to national culture can make motivating the employees of the acquired company more difficult as well. Guerrero (2008) examined employee attitudes after acquisitions for a five-year period and found increasing insecurity felt by employees, which could affect post-acquisition integration negatively.

Information asymmetry between the acquirer and the target is another challenge presented by IAs. The target possesses superior information relative to the acquirer, and it is difficult for the acquirer to precisely evaluate the value of the target firm (Akerlof, 1970), due to this information asymmetry. This creates a risk of overpayment for the

acquirer, in addition to excessive transaction costs, during the due diligence and negotiation processes (Reuer, et al., 2004). Overpayment or overvaluation of the target leads to lower performance after an acquisition (Lin, Chou & Cheng, 2011; Fu, Lin, & Officer, 2013). It has also been found that information asymmetry leads to failures in acquisitions (Haspeslagh & Jemison, 1991; Gilson & Black, 1995). In addition, IAs pose risks in terms of information asymmetry due to differences between the environments in which the two companies operate, especially if the institutions are not well developed in the host country. Complex factors related to language, culture, etc., make it more difficult to value the knowledge embedded in the target company (Mukherji, Mukherji, Dibrell, & Francis, 2013). Moreover, differences in accounting practices and disclosure requirements in the host country can prevent the acquirer from obtaining accurate information about the target. Information asymmetry regarding the intellectual assets of the target and the legal protection of these assets also creates uncertainty and risk regarding the potential returns to be generated by an acquisition. This uncertainty lowers the synergy potential and has been invoked to explain lower returns in IAs (e.g., Moeller & Schlingemann, 2005).

Acquisitions can also have negative effects that are not directly related to the acquired firm. Sometimes too much time and effort devoted to the integration process may render top management unable to focus on other important decisions and damage the overall performance of the company (Zollo & Meier, 2008). In some cases, the expected synergies may be achieved, but the performance of the acquirer may not be improved, due to the negative effects of the acquisition on other stakeholders, such as suppliers, government, competitors, and customers (Zollo & Meier, 2008). For instance, a company

may face informal sanctions by a local government after an IA if the local competitors have power over the government. Also, acquirers restructure the target company following the IA, which can create some tension with the host government and result in a negative public image in the host country. Target companies become a part of the acquirer and can be perceived as a foreign company by local consumers. Consumer animosity against the home country of acquirer could also negatively influence the purchasing behavior of local consumers. For instance, Fong, Lee and Du (2013) show that Chinese consumers demonstrate negative attitudes after the acquisition of Chinese firms by foreign acquirers. Building on all these negative aspects of IAs, we develop a competing hypothesis which proposes a negative effect of IAs on competitiveness.

*Hypothesis 1b: International acquisitions reduce the competitiveness of companies.*

Most of the prior literature has examined the acquisitions in terms of their performance. We are examining IAs from competitiveness perspective. Although competitiveness and performance has been used interchangeably, there are some differences between them. First of all, competitiveness is a relative concept and outperforming a peer entity is crucial in competitiveness. However, two firms can both be profitable from the performance point of view. Therefore, there has to be a benchmark when assessing competitiveness while firm performance can be examined independent of competitors. Competitiveness is also a multidimensional concept (Ambastha & Momaya, 2004). Hence, more than single performance measures should be used to assess it (Buckley, Pass, & Prescott, 1988). Another difference in terms of competitiveness and performance is the time. Performance usually assesses how a firm performs in a given

period or in the past whereas competitiveness has long-term implications. For instance, profitability is a commonly used measure for performance and it shows how a firm performs in a fiscal year. Market share and productivity are widely used to assess competitiveness and they have long-term implications. Market share provides firms with more resources to invest in R&D and marketing, which in turn lead to a better performance in the long-run. Similarly, productivity makes firms more efficient and provides them with more flexibility in terms of pricing. Firms can use this flexibility strategically to out-perform their rivals. In sum, competitiveness provides companies strategic benefits that will lead to high performance. Being more competitive may not necessarily be the same as being more profitable in the short-term, but it enables firms to out-perform their rivals in the long run. In our study, we want to see how IAs affect the competitiveness of acquirers which might be more important for survival and long-term performance than short-term market returns or profitability.

### ***What Affects the Success of IAs?***

There is variance among the outcomes of acquisitions, meaning that there are both winning and losing cases. In other words, not all IAs create value, and their success depends on various factors. There is a body of literature that focuses on pre-acquisition conditions as determinants of the success of acquisitions (Lubatkin, 1983), such as the experience of the acquirer (Haleblian & Finkelstein, 1999; Vermeulen & Barkema, 2001) and the size of the acquirer and the target (Kitching, 1967; Lubatkin, 1983). In addition to firm-level factors, variables related to the CEO, board and ownership, such as board composition (Ahn, Jiraporn & Kim, 2010), ownership structure (Ferreira, Massa & Matos, 2010) and

the characteristics of CEOs (Gao, 2010) have been studied to explain the success of acquisitions. On the other hand, the process perspective, mostly dominant in human resource management, focuses more on the post-acquisition period and considers integration issues as determinants of the success of acquisitions (Jemison & Sitkin, 1986). Despite the numerous variables that are found to affect the success of acquisitions, it remains puzzling why acquisitions, on average, fail (Haleblian, et al., 2009), and we still know very little about the performance determinants of IAs (Stahl & Voigt, 2008). The question of what affects the success of IAs is far from conclusive, and as a result, we see repeated calls for novel perspectives on IAs to discover determinants of success (e.g., King, et al., 2004; Haleblian, et al., 2009). Here, we aim to deepen our understanding of the success factors of IAs from a resource-based standpoint and an institutional theory perspective.

#### *Acquirer Resources*

The resources and capabilities of acquirers have not gotten enough attention in explaining the success of IAs. Resources are mainly examined in terms of how they affect the likelihood of an acquisition (e.g., Huyghebaert & Luypaert, 2010). In many other studies, the focus is on the resources and capabilities of the target, as IAs are used to acquire the valuable resources of target companies (Karim & Mitchell, 2000; Hitt, Harrison, Ireland, & Best, 1998). We believe that the resources and capabilities of acquirers are also important in explaining the success of acquisitions in addition to their likelihood. The resources of the acquirer and the target are believed to create synergies following

an IA. However, the acquirer should have the necessary resources and capability to create these synergies. If the acquirer lacks the necessary resources, it is not possible to integrate resources and create synergies. Having sufficient resources and capabilities is also necessary for exploiting opportunities in new markets, which is one of the main motivations for IAs.

Drawing on eclectic paradigm, the resources of companies are mainly examined in terms of FDI (Dunning, 1981). Similarly, a company should have the resources to succeed after an IA, which is a form of FDI. In one of the few studies that examine the impact of acquirer resources on the success of IAs, Francoeur (2006) found that companies that engaged in IAs could realize efficiency gains and create value if they had high levels of research and development (R&D), and as a result, intangible. This study focused only on R&D as a resource and on efficiency as an outcome, rather than on the success of acquisitions in general. Similarly, Suh, You, and Kim (2013) show that the innovative capabilities of acquirers positively influence the performance of the acquisition performance. Having a strong brand name is also important for exploiting opportunities. Companies that have invested on advertising and have a global brand name have a higher likelihood of success after an IA, because intangible assets help a company to be welcomed by consumers and make the adaptation process faster and easier. A strong global brand name also affects the integration process and the synergies created. The employees of the target will trust the brand name, which eases the process of keeping and using the intellectual assets of the target and, hence, creates synergies. Both R&D and marketing increase the intangible assets of the

company. IAs also provide acquirers with the benefit of interlazing valuable assets. Intangibles assets are valuable and they have the risk of leakage to other companies especially in cooperative modes of entry. IAs enable companies to have full control over those intangibles. Therefore, companies with a higher level of intangible assets have a higher likelihood of improving their competitiveness following an IA.

*Hypothesis 2: International acquisition of a firm enhances its competitiveness with an increase in the proportion of intangible assets of the acquiring firm.*

#### *Acquirer Capabilities*

In addition to having resources, firms should have the capability to utilize these resources and create synergies. One examples of such a capability is the experience of the firm. Different sorts of experience have been examined, such as acquisition experience (Fowler & Schmidt, 1989), international experience (Markides & Ittner, 1994), and host-country experience (Gaur & Lu, 2007). In the context of IAs, we believe that acquisition experience is the most relevant. It has been found to increase the likelihood of engaging in an acquisition (Haleblian, Kim, & Rajagopalan, 2006; Peng & Fang, 2010), and it has the potential to influence the outcome of an IA. However, evidence is mixed regarding the impact of acquisition experience on acquisition success. Aktas, De Bodt, and Roll (2013) suggest that acquirers learn from repetitive acquisitions, which increases the success of acquisitions, especially under CEO continuity and conditions where successive deals are similar. In another recent study, Ismail and Abdallah (2013) show that the acquirers' returns were not affected by acquisition experience. In some other studies, the relationship between acquisition experience and post-acquisition performance was found

to be U-shaped (Haleblian & Finkelstein, 1999), insignificant (Zollo & Singh, 2004), or positive (Bruton, Oviatt, & White, 1994; Fowler & Schmidt, 1989). Due to these mixed results, it is not clear how acquisition experience impacts the success of IAs. Moreover, the impact can be different on various dimensions of competitiveness. In this study, we also want to shed light on how significant the impact of experience is on competitiveness in the context of IAs.

A firm faces many difficulties when making a IA, which is a complex process and needs to be managed very well. Organizational learning theory suggests that as firms make more IAs, they gain experience, and it predicts that this increases the chance of success. Knowledge obtained from prior acquisitions can be used in similar situations as a reference point for future decisions (Millington & Bayliss, 1997). Companies also learn from their mistakes and failures by codifying the practices and routines that are important in the integration process (Zollo & Singh, 2004). Therefore, acquisition experience also enables acquirers to manage the unique characteristics of IAs more effectively (Markides & Ittner, 1994). Without international experience to guide a firm's decision, acquirers can make missteps (Hastings, 1999). Building on organizational learning theory, we propose that acquirers come to understand complexities of IA implementation better as a result of learning from their failures and successes after acquisitions, and we argue that the acquisition experience of a firm increases the likelihood of the success of an IA.

*Hypothesis 3: International acquisition of a firm enhances its competitiveness more, when the acquirer has greater acquisition experience.*

### *Complementarity of Resources and Capabilities*

The strategic fit between the acquirer and the target is observed to affect post-acquisition performance. We examine the fit between the acquirer and target in terms of the complementarity between their resources and capabilities. The possession of valuable resources by both the acquirer and the target is a necessary but not a sufficient condition for an IA to create a competitive advantage. In order for an acquisition to create synergies and to be successful, both the acquirer and the target firms must have valuable resources, and these resources should be integrated effectively (Morrow, Sirmon, Hitt, & Holcomb, 2007). King, Slotegraaf, and Kesner (2008) found that the returns for the acquirer are higher when the resources of the acquirer and the target are complementary. They suggest that marketing resources, for instance strong brand names, positively complement the technological resources of the target. Complementarity has been frequently stressed by CEOs as well, as a factor crucial to the success of acquisitions. After being acquired by Aurelius, Mark Cook, CEO of Getronics UK, said, “We’re committed to continuing the growth and delivering the highest standards of service to our customers. As part of this, we plan on acquiring businesses that will add another dimension to our continuously evolving portfolio and complement our existing offering” (Bielikova, 2013). Jan Valcke, President and Chief Operating Officer of VASCO, also emphasized complementarity after the acquisition of Cronto: “But what is the unique combination is that Cronto has technology, we have the rest. We have the sales channel. We have the large production facilities. We have the cost of goods sold that can be handled by us” (VASCO, 2013).

The complementarity of resources can be looked at from different perspectives, such as in terms of the fit between organizational cultures and the similarity of the goals.

Makri, Hitt, and Lane (2010) examined complementarity in terms of scientific and technological knowledge and found a positive impact on post-acquisition invention performance. The similarity of the partners has been used as a proxy for complementarity, and has been found to impact acquisition success positively (Makri, et al., 2010; Finkelstein & Haleblan, 2002). In this study, we used the relatedness of the parties in the acquisition as a proxy for complementarity.

Another argument related to this issue concerns diminishing returns after a certain degree of similarity (Haleblan, et al., 2009). If the resources of the target and the acquirer are too similar, there will be no benefit from the acquisition. Arguments against relatedness recommend that firms limit themselves to targets that have very similar resources in related acquisitions (Wolpert, 2002; Higgins & Rodriguez, 2006); however, this results in redundancies (Zollo & Singh, 2004) and the duplication of resources (King, et al., 2008). It has also been argued that unrelated acquisitions provide some benefits to acquirers. One of these benefits is the diversification of acquiring firm as a result of investing in unrelated businesses. Unrelated acquisitions also provide acquirers with more heterogeneous resources (Anand, Capron, & Mitchell, 2005), which in turn fosters the creation of complementary knowledge and the development of new products (Sorenson & Sorenson, 2001). Another way that unrelated acquisitions are beneficial for acquirers is in terms of providing a broader pool of intellectual capital, which can enhance creativity.

We argue that complementarity of resources is crucial for creating synergies, and propose that it positively influences the success of an IA for several reasons. Business relatedness provides synergistic benefits because the resources of the acquirer and the target may be industry-specific and require industry know-how. If the acquirer and the

target are from different industries, the acquisition may create benefits in terms of diversification, but it will be difficult to create synergies, as the resources will not productively complement each other. Relatedness can also be beneficial in terms of operational synergies. If the acquirer and target are from same industry, they will increase their market power through larger production capacity and lower purchasing costs (Gupta & Gerchak, 2002), share resources, and create operational synergies through economies of scale and scope (Raj & Uddin, 2013). Above, we discussed information asymmetry as a threat to synergy creation. In related acquisitions, the acquirer has more knowledge about the target, which reduces information asymmetry and the risks associated with it. Being in the same industry increases the likelihood of knowing the target, which increases the chance of success in an IAs (Chang & Tsai, 2013). Therefore, we propose that relatedness has a positive impact on the success of IAs.

*Hypothesis 4: International acquisition of a firm enhances its competitiveness more when the acquirer and the target are from the same industry.*

#### *Country-Level Factors*

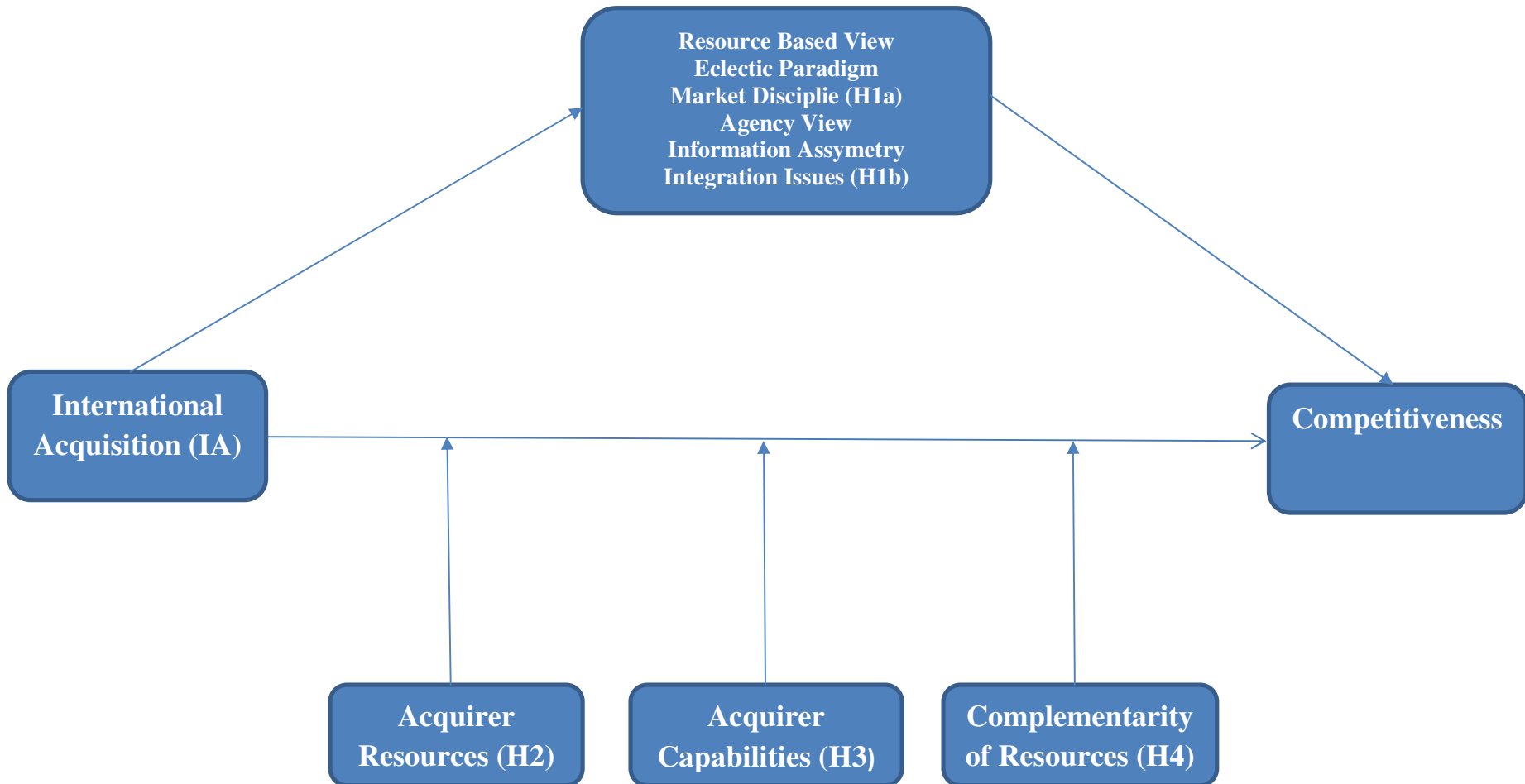
In IAs, not only do firms come together, but their countries also engage in a relationship. The acquirer will start to operate in a new environment following the IA. Acquirers transfer their resources to the targets and implement their strategies in a new environment. Although the acquired company can be an independent subsidiary, it is very likely to be affected by the parent company's strategies and practices. The environment in the host country determines whether these strategies and practices will fit and work. Therefore, country-specific variables have been studied in terms of the success of IAs. In this section, we briefly discuss some of the most important factors involved.

Institutional theory has been used to explain the impact of home and host country variables on acquisition outcomes. The fundamental argument in institutional theory is that organizations functioning in similar environments will employ similar practices (DiMaggio & Powell, 1983). The more similar the “institutional profiles” of the countries in which a multinational corporation operates, the easier it will be to respond appropriately to national legitimacy requirements (Kostova & Zaheer, 1999). Based on this view, the similarity of environments in the home and host countries will make the acquisition more likely to succeed. Therefore, in order for an IA to improve the competitiveness of a company, the countries’ institutional environments should complement or at least not contradict each other. One of the important factors that should be taken into consideration in terms of the complementarity of countries is cultural distance, which is an often-implicated, yet unsubstantiated, cause of failure in acquisitions (Uhlenbruck, 2004). Findings about the impact of cultural distance on IAs are mixed; some studies found a negative impact (Datta & Puia, 1995; Uhlenbruck, 2004), while others showed a positive effect (Chakrabarti, Gupta-Mukherjee, & Jayaraman, 2009; Morosini, Shane, & Singh, 1998).

Post-acquisition integration is the critical link in realizing success for acquisitions (Schweiger & Lippert, 2005). In domestic acquisitions, organizational cultural differences have been shown to be a detriment to integration (Marks, 1982; Marks & Mirvis, 1985). Cultural distance between countries makes the integration process more difficult (Stahl & Voigt, 2008), as culture has an important influence on how people interact with others. Culture can also affect the behavior of employees, which makes the control and monitoring of foreign employees more difficult. Cultural distance also affects

communication between acquisition partners negatively (Reus & Lamont, 2009) and impedes the benefits of an IA. Another influence is the extent to which acquirers can retain key employees. Employees at the target company can feel threatened in the newly combined firm (Krug & Hegarty, 1997), which makes them less willing to cooperate and accept the practices of the acquirer. Having a shared set of value and norms between the acquirer and the target is crucial for creating synergies (Dhanaraj, Lyles, Steensma, & Tihanyi, 2004), but in culturally distant acquisitions, shared values and norms are less likely to exist.

On the other hand, there are positive views about the impact of cultural distance on IAs. Subscribers to the resource-based view suggest that cultural disparities between acquisition partners bestow unique and valuable capabilities on the acquirer and create a competitive advantage. Based on the organizational learning perspective, it has also been argued that cultural distance can enhance the innovativeness of the acquirer by capability transfer, resource-sharing and learning. Cultural heterogeneity can enhance creativity, too (Cox, 1991). Moreover, culturally distant acquisitions result in a more diverse organization, which in turn provides managers with more viewpoints, options, and solutions for critical business problems (Gomez-Mejia & Palich, 1997). This enables acquirers to have comprehensiveness in decision-making and more unique ways of doing business. In sum, cultural distance, and some other country-level variables, have the potential to influence the post-acquisition success, and we will use and discuss the effect of these variables in our empirical analysis. A representation of our conceptual framework can be seen in Figure 1.1.



**Figure 1.1: Conceptual framework for the impact of acquisition on firm competitiveness**

## **Research Methodology**

### ***Construction of the Sample and Collection of the Data***

Our data on acquisition announcements came from the Securities Data Corporation (SDC) “Platinum” database. Financial data for firms are from the Compustat Annual North America database. Country-level variables came from various public sources, including the World Bank and the IMF. Our empirical tests were based on a sample of IAs that occurred between 1985 and 2007 in 95 countries. All IAs made by US firms in foreign countries formed the target population of this study. By holding the buyers’ country constant, we were able to control for possible home-country effects. After excluding acquisitions that were not completed, or where the target nation was not known, or where data were missing, we ended with a sample size of 3,514 IAs. However, our regressions have fewer observations, owing to data constraints for different variables. Not surprisingly, the U.K. and Canada dominate our dataset as target countries, with 22.2% and 16% of all US IAs, respectively. Table 1.1 also shows information about the acquirers’ industries. Many of the acquisitions took place in the manufacturing industry, at 34.32%. The finance, insurance, real estate and construction industries follow the manufacturing industry, with 16.99% and 15.09%, respectively. When we look at the distribution of IAs across years in terms of the number of deals and their values (Figure 1.2), we see that the number of IAs increased between 1985 and 1998, at which point they peaked. The number of IAs then declined until 2003 and started to increase again in 2004 and after. Finally, we provide means, standard deviations, and correlations of the variables in Table 1.2.

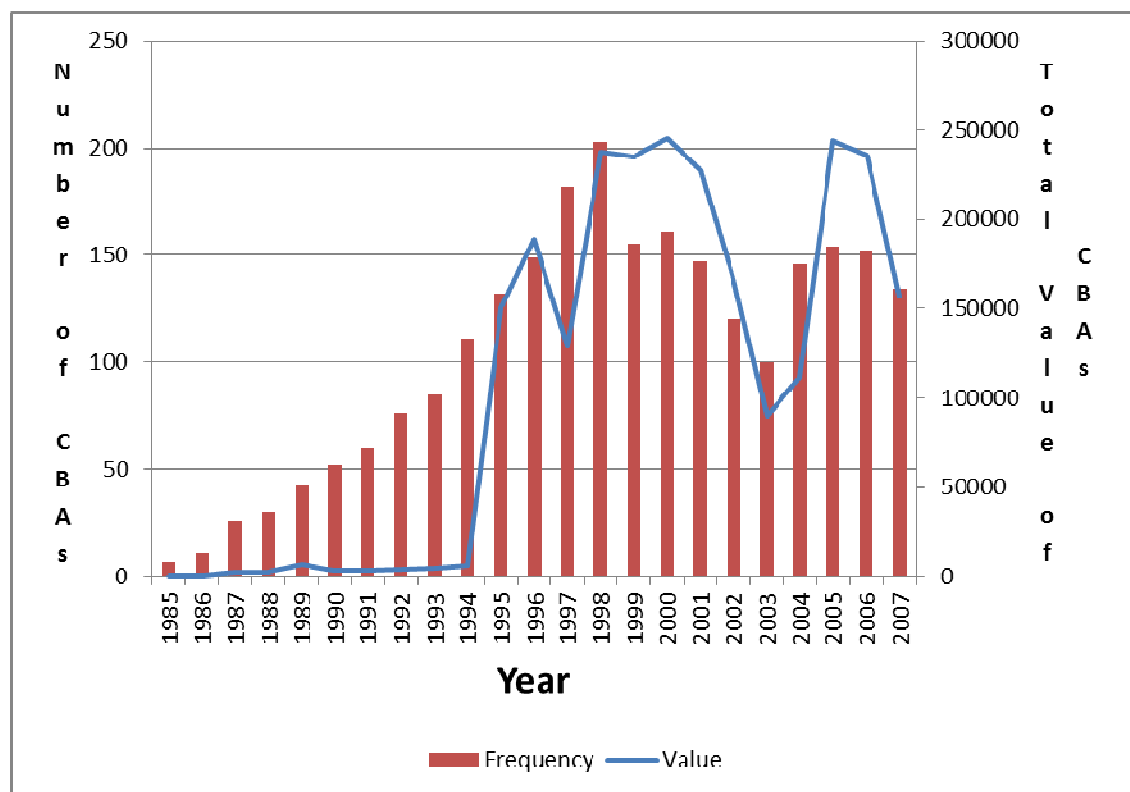
**Table 1.1: Number of IAs across target countries and acquirer industries**

This table provides the number of IAs across different industries and also the distribution of IAs across target countries.

Target Nation / Industry	United Kingdom	Canada	Germany	France	Australia	Netherlands	Israel	Sweden	Japan	Mexico	Italy	Switzerland	Brazil	China	Norway	Argentina	Spain	Ireland	Hong Kong	Taiwan	Other	Total
Agriculture, Forestry & Fishing	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Mining	22	38	7	15	6	4	4	2	0	2	0	6	5	2	1	2	2	1	0	2	28	149
Construction	0	2	1	1	2	0	0	0	0	1	0	0	0	1	0	0	0	2	0	0	3	13
Manufacturing	248	221	104	82	62	31	25	28	22	23	21	19	28	19	19	13	11	14	13	11	171	1185
Transportation, Communications, Electric, Gas & Sanitary Services	35	30	23	14	13	9	6	2	7	4	8	2	0	6	4	4	2	3	4	1	31	208
Wholesale Trade	17	23	8	9	8	0	1	1	3	2	0	0	2	1	1	0	1	1	2	1	16	97
Retail Trade	6	8	4	2	3	0	0	1	2	0	1	3	0	1	0	3	0	0	0	0	3	37
Finance, Insurance & Real Estate	67	25	16	16	7	11	5	9	6	4	7	6	3	4	2	6	3	4	2	3	26	232
Services	124	76	50	32	12	16	15	13	12	14	12	10	5	9	5	4	9	3	5	8	65	499
Public Administration	8	0	2	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	14
<b>Total</b>	<b>528</b>	<b>424</b>	<b>215</b>	<b>171</b>	<b>115</b>	<b>71</b>	<b>56</b>	<b>56</b>	<b>52</b>	<b>50</b>	<b>49</b>	<b>46</b>	<b>43</b>	<b>43</b>	<b>33</b>	<b>32</b>	<b>28</b>	<b>28</b>	<b>26</b>	<b>26</b>	<b>344</b>	<b>2436</b>

**Table 1.2: Means, standard deviations, correlations of the variables**

	Var	Mean	S. D.	1	2	3	4	5	6	7	8	9	10
Intangibles	1	0.17	0.17	1.00									
Experience	2	1.93	2.75	0.12	1.00								
Same Industry	3	0.34	0.47	-0.08	-0.02	1.00							
Cultural Distance	4	0.43	0.30	0.01	0.09	0.00	1.00						
GDP Growth	5	3.04	2.42	0.01	0.08	0.01	0.00	1.00					
Capital Expenditures	6	0.12	0.36	-0.11	-0.04	0.05	0.01	-0.01	1.00				
Firm Size	7	6.82	2.11	0.06	0.51	-0.02	0.13	0.04	-0.10	1.00			
IA X Intangibles	8	0.17	0.17	1.00	0.12	-0.08	0.01	0.01	-0.11	0.06	1.00		
IA X Experience	9	1.93	2.75	0.12	1.00	-0.02	0.09	0.08	-0.04	0.51	0.12	1.00	
IA X Same Industry	10	0.34	0.47	-0.08	-0.02	1.00	0.00	0.01	0.05	-0.02	-0.08	-0.02	1.00



**Figure 1.2: Number and total value of international acquisitions over years**

## *Measurement of Variables*

### *Dependent Variables*

Our dependent variable is post-acquisition competitiveness. The outcomes of acquisitions are difficult to assess accurately in terms of the indices used (Lubatkin, 1983). Previous studies have examined acquirer performance from different perspectives (Zollo & Meier, 2008) such as financial indicators, market reaction, integration (Larsson & Finkelstein, 1999), synergy realization (Stahl & Voigt, 2008), innovation (Kapoor & Lim, 2005), employee and top management turnover (Hambrick & Canella, 1993), project survival and divestitures (Pennings, Barkema, & Douma, 1994), achievement of merger goals (Cartwright & Cooper, 1992), and organizational culture fit (Buono, Bowditch, & Lewis, 1995). Short-term market reaction is one of the most commonly used measures, especially in the finance literature. However, at best, it captures only “announcement effects” or “expectations of the market,” and not the long-term performance of the acquiring firm. Moreover, the market reaction to acquisitions is affected by investors’ sentiments (e.g., optimism) (Petmezas, 2009), which are followed by long-term reversals. We also think that using a single performance measure is not sufficient for assessing the impact of IAs, as competitiveness is a multidimensional concept. Therefore, we employ different dimensions of competitiveness to assess the impact of IAs.

*Productivity.* Companies need to improve their productivity in order to achieve a sustainable competitive advantage. In some studies (Ben-Hsien & Da-Hsien, 1989), productivity was found to have a more direct effect on firm’s value than the financial earnings. Productivity in general is definable as the amount of output produced with a

given level of input. We followed Altomonte and Pennings (2009) in measuring productivity, using sales as an output and labor as an input. The proxy for labor is the number of employees. We used the growth in labor productivity over the first year following the IA.

*Market share and sales.* One of the key issues in competitiveness is performance relative to that of rivals. Market share has been used to assess competitiveness (e.g., Hunt, 1990; Datta, 1991). By relating performance directly to that of competitors, market share is one of the best measures of competitiveness. We calculated the market share of each firm by dividing its sales by the total industry sales. We used the growth in market share following the acquisitions and used growth in sales to complement market share growth.

*Market Value.* We used Tobin's Q and measured it as the total market value of the company, divided by the book value of assets.

*Profitability.* Although accounting measures have many deficiencies, we believe that they should not be ignored. We used return on assets (ROA), which is measured as earnings before interest, taxes, and depreciation (EBITDA), divided by the total amount of assets of a firm.

Growth in market share, productivity, sales and market value are more related to competitiveness. We also wanted to complement these measures with profitability, which has been used mainly to assess performance.

### *Independent Variables*

*Intangibles.* We used intangible assets as a proxy for the resources of the acquirers. Most of the intangibles were derived from either R&D or advertising. The expenses related to these items in a year can be high or low and may not reflect the resources of the company well; therefore, to measure this variable, we used intangible assets as a percentage of total assets.

*Acquisition experience.* Acquisition experience was used to assess the capabilities of the acquirers. It was measured at the number of acquisitions a firm has engaged since 1985.

*Complementarity of resources (relatedness).* We looked at whether the companies are from the same industry or not. It is widely accepted in the strategic management literature that firms that have the same four-digit SIC code are in the same line of business (Hoberg, Katja, & Margit, 2009; Oler, Harrison, & Allen, 2008, Halebrian & Finkelstein, 1999). We classified acquisitions as related if the acquirer and target had the same SIC code at four digits, and as unrelated if they did not. We measured this variable with a dummy. If the acquirer and the target were in the same industry, they were assigned a value of 1, and 0 otherwise.

*Cultural distance.* There are many cultural measures offered in the literature (Trompenaars, 1993; Schwartz, 1994; Maznevski & DiStefano, 1995; Inglehart, 1997) and the most recent one is developed by the GLOBE team (House et al., 2004). The best-known and most widely used index is from Hofstede's 1980 study. Later, more dimensions were added to Hofstede's framework of cultural dimensions (e.g., Hofstede, Hofstede & Minkov, 2010). However, rather than using Hofstede's dimensions and

country culture scores, we used more current data from the GLOBE project (House et al., 2004). For cultural distance, we followed Kogut and Singh's (1988) methodology, which is as follows:

$$CD_j = \sum \{(I_{ij} - I_{iu})^2 / V_i\} / 4$$

where  $I_i$  is  $i$ th cultural dimension (House et al., 2004) for host country  $j$  and home country  $u$  (U.S.). Distances are variance ( $V_i$ ) corrected, and the method imposes weights based on index variance.

*GDP growth.* One of the most important determinants of the attractiveness of a country is its growth potential, which is usually assessed by the growth in GDP. Therefore, we used the growth rate in GDP of the host country for the year in which the IA took place, in order to see how the economic potential of the host country affected the success of the IA.

#### *Control Variables*

Various control variables can be used, such as firm size, leverage, and so forth. In our sample, these were highly correlated with some of the variables in the study (e.g., acquisition experience), which can be found in Table 1.2. Therefore, we did not use control variables, except for the capital expenditures of the acquirer for the year of acquisition. This was measured by capital expenditures as a percentage of total sales. These expenditures can be expected to influence the performance of the acquirer. We also looked at various host-country variables such as tax rates, corruption, exchange rates, etc., as potential control variables. Like the firm-level variables, they were highly correlated with some of the variables we used (e.g., cultural distance and GDP growth),

and they were not included in the analysis. For instance, exchange rates, variables related to being an emergent market, and geographic distance were highly correlated with cultural distance and corruption.

#### *Instrumental Variables*

In the robustness tests, we used two-stage least squares estimation. We estimated the firms' propensity to engage in acquisitions by different instruments.

*Intangibles.* We used intangibles as an instrument, which we calculated as intangible assets divided by total assets.

*Leverage.* To measure leverage, we used long-term debt as a percentage of total assets.

*IPO.* We employed a dummy variable which takes a value of 1 if the firm has an IPO in last 5 years before the acquisition and 0 otherwise.

*Credit rating.* We used interest expense as a percentage of total debt as a proxy for the credit rating of the company.

*CEO Options.* We used in-the-money unexercised options of CEOs in order to measure CEO options.

*CEO age.* This variable was measured by the age of the CEO at the year before the acquisition.

A short description of all of the variables can be found in Table 1.3.

**Table 1.3: Description of variables**

<b>Variable</b>	<b>Measurement</b>
Labor Productivity	Sales divided by number of employees
Labor Productivity Growth	Growth in labor productivity one year after the acquisition
Sales	Total revenue in \$ million
Sales Growth	Growth in sales one year after the acquisition
Market Share	Firms sales as a percentage of total industry sales
Market Share Growth	Growth in market share one year after the acquisition
Return on Asset (ROA)	Earnings before interest, taxes, and depreciation (EBITDA) scaled by total assets
Tobin's Q	Market Value of the company divided by book value
IA	Value of 1 if the company has a IA and 0 if company has either domestic acquisition or no acquisition
Domestic	Value of 1 if the company has a domestic acquisition and 0 if company has either IA or no acquisition
Intangibles	Intangibles assets scaled by total assets
Experience	# of acquisitions that company has had since 1985
Relatedness	Value of 1 if the acquirer and target are at the same industry at 4-digit level and 0 otherwise
Cultural Distance	The cultural distance developed by Kogut and Singh (1988) based on Globe cultural dimensions
GDP Growth	Growth in gross domestic product of host country at the acquisition year
Capital Expenditures	Capital Expenditures in \$ million
Firm Size	Log of total assets
IA x Intangibles	Interaction variable between IA and intangibles
IA x Experience	Interaction variable between IA and experience of the firm
IA x Relatedness	Interaction variable between IA and whether the acquisition is in same industry or not
Options	Estimated value of in-the-money unexercised exercisable options of CEO in \$ million
CEO Age	Age of the CEO at the time of the acquisition
IPO	Value of 1 if the firm has an IPO in last 5 years before the acquisition and 0 otherwise
Credit	Interest expense divided by total debt

## *Data Analysis*

### *Control (Matching) Sample*

It is very important to perform benchmarking when assessing competitiveness, as it is a relative concept. Moreover, there are various environmental factors in an industry that affect the performance of companies. Therefore, looking only at the performance of the acquirer may not give a good idea about the impact of an IA. Using control samples that contain firms with similar characteristics allows us to make an accurate comparison and see the real impact of IAs. We created a control sample made up of companies not engaged in acquisitions. Using the control sample served various research objectives. It enabled us to assess competitiveness against a benchmark and to exclude environmental factors that affect the performance of companies. The control sample was created from a large pool: 165,466 firm-year observations. We selected a matching company from this pool for each IA. The selection was based on the year, the industry, and the firm size. For each IA, we selected a company from the same industry with the closest size, which had no acquisitions in the same year. Our final control sample contained 2,320 observations. We also created a control sample from domestic acquisitions to use for robustness tests. Details of the control sample procedure and statistics can be found in the Appendix.

### *Univariate Analysis*

The first analysis we conducted to test our hypotheses was a univariate analysis (Table 1.4). First, we compared the competitiveness of the acquirers before and after the acquisition. The purpose of this was to see how the acquirer's competitiveness changed after an IA. Then we conducted a univariate analysis by comparing the IA organizations with the control sample, which was composed of companies with no acquisitions.

Comparisons were made at one-, two- and three-year intervals. A t-test was used to compare the competitiveness of acquirers with the benchmarks. We used domestic acquisition as a benchmark for robustness tests.

### *Multivariate Analysis*

We employed a multivariate analysis and assessed the impact of the IAs by constructing a dummy variable and running a regression with that variable. This methodology allowed us to control for some variables and see how the IAs affected the competitiveness of acquiring companies. We used the sample of IA companies and the control sample of non-acquisition companies. In this analysis, we tested hypothesis 1, which was about the impact of an IA on competitiveness (Table 1.5). The model is as follows:

$$\text{Competitiveness} = a + b \times IA + c \times \text{Controls} + \epsilon. \quad (1)$$

We ran a different regression using only the IA sample to test the hypotheses related to success factors (hypotheses 2-4), as the explanatory variables did not apply to non-acquisition cases. We regressed these variables on post-acquisition competitiveness to see whether they significantly affected the success of IAs (Table 1.6). The model for this analysis is as follows:

$$\text{Competitiveness} = a + b \times \text{Variables} + c \times \text{Controls} + \epsilon. \quad (2)$$

### *Robustness Tests*

We conducted several additional tests to check the robustness of our results. First, we conducted a robustness test by employing the same regression using the whole sample, which contained IAs, domestic acquisitions, and non-acquisition cases (Table

1.7). We constructed dummy variables for IAs and domestic acquisitions and conducted an equality test between the coefficients of these variables. In addition to showing the impact of an IA in comparison with all of the other companies, this analysis enabled us to see whether the impact of IAs and domestic acquisitions differed.

Next, we performed the two-stage least squares estimation. The purpose of this is to understand the impact of IAs on competitiveness. However, the exogeneity of the decision to proceed with an IA is questionable. Some other factors might affect the propensity of companies to engage in acquisitions, which could be responsible for the variations in competitiveness between our main and control samples. To alleviate this endogeneity problem, we employed two-stage least squares estimation. In the first stage, we used instruments to predict the propensity of a company to engage in an acquisition. Then we used this predicted value in the second regression. In this way, we excluded the impact of those instruments and were able to capture the real impact of IAs on competitiveness.

We used various instruments to predict the propensity of companies to engage in acquisitions. First instrument we used is the intangibles of acquirer as companies with higher intangibles engage in more acquisitions (Huyghebaert & Luypaert, 2010). Financial resources of companies affect companies' acquisition strategies. Engaging in an acquisition is costly and requires financial resources. Companies in financial distress have less incentive to engage in IAs (Chen, Huang, & Chen, 2009). Therefore, we used leverage as an instrument that affects the likelihood of an IA compared to domestic acquisition. As indicated previously, companies need financial resources to finance acquisitions. One of the sources of these financial resources is debt. The ability to get

loans from banks and the cost of debt are determined by the credit ratings of companies. A higher credit rating makes it easier to finance acquisitions, which increases the incentive to engage in them (Forssbäck & Oxelheim, 2008). Another way to raise financial resources is via capital markets. Companies use IPOs to generate financial resources. Celikyurt, Sevilir, & Shivdasani, (2010) showed that companies that have had a recent initial public offering (IPO) engage in more acquisitions. Therefore, we used the IPO activity of firms as an instrument the propensity to engage in an acquisition. The compensation of CEOs affects their decisions and we used CEO options as another instrument. Agency theory suggests that the interests of CEOs and shareholders can be in conflict with each other. One way to align the interests of CEO with those of shareholders is to provide them with options. This makes CEOs' wealth linked to the company performance. As a result, CEOs with higher levels of in-the-money unexercised options and equity holdings tend to take fewer risks and engage in fewer international acquisitions as they are riskier than domestic acquisitions (Matta & Beamish, 2008). Last variable we used as an instrument is CEO age. Based on prospect theory, CEO characteristics affect their decision making. One characteristic that affects the risk-taking behavior of CEOs is their age. Older CEOs are closer to their retirement and take fewer risks. Matta and Beamish (2008) found evidence for the career horizon argument, showing that older CEOs have less of an incentive to engage in acquisitions. We employed two-stage least squares estimation for two samples: the main sample containing the IA and non-acquisition cases, and the full sample containing all type of companies (Table 1.8).

Lastly, we used a different control sample, which was composed of domestic acquisitions, to test the impact of an IA against a different benchmark. We used a combination of IA and domestic acquisitions for this robustness test. We used a dummy for IAs to determine the impact of IAs, compared to domestic acquisitions. We also included the explanatory variables with the interaction term, as the success factors we examined could also be considered moderators that influence the impact of IAs on competitiveness. Therefore, we created interaction variables between the IA and success factors (Table 1.9). However, we tested the variables only at the firm level, as the country-level variables did not apply to domestic acquisitions. The model in this analysis is as follows:

$$\text{Competitiveness} = a + b \times \text{Variables} + c \times \text{IA} + d \times (\text{IA} \times \text{Variables}) + e \times \text{Controls} + \epsilon \quad (3)$$

We used five dimensions of competitiveness for all of the analyses: growth in labor productivity, sales, market share, Tobin's Q, and ROA for one year after the acquisition. As indicated earlier, first four variables are directly related to competitiveness, while ROA is more related to the performance. All of the variables were winsorized 1% at each tail to reduce the impact of outliers. All regressions in our analyses included fixed effects for the effective year of the acquisition and the acquirers' industry. The regression coefficient estimates and their associated t-statistics are reported in all the tables with robust standard errors.

## Results

### *The Impact of IA on Competitiveness*

The first results we discuss here are from the univariate analysis (Table 1.4), where we assessed the impact of an IA on competitiveness using two benchmarks (the results involving the third benchmark, domestic acquisitions, will be discussed with the robustness tests). First, we compared post-acquisition with pre-acquisition period. Competitiveness increased in two out of the five models (labor productivity and market share). We also found that the impact changed over different time frames. For instance, the impact of an IA on Tobin's Q is negative at year one and positive for years 2 and 3. As indicated earlier, our main analysis depends on benchmarking against the control sample. Our results indicate that IAs enhance competitiveness in three measures out of five, compared to non-acquisitions strategy, and reduce competitiveness in only ROA. Overall, the univariate results indicate that IAs enhance competitiveness, and hypothesis 1a is supported for three measures.

Next, we conducted a multivariate analysis to test hypothesis 1a and 1b. We assessed the impact of an IA on competitiveness by looking to the dummy variable for IA at the regression (Table 1.5). We used the sample containing both IA and non-acquisition cases (the control sample). For the five models in the regression, all of the coefficients are significant. The coefficients for labor productivity growth, sales growth, market share growth and Tobin's Q are positive, whereas the coefficient of ROA is negative. The negative sign for ROA is surprising, but it can be explained by the time frame we used. We looked at one year of post-acquisition competitiveness. However, it might take time to realize synergies at the operational level, which is reflected in the ROA. This is in

concordance with a negative ROA in the first year following the acquisition. Moreover, ROA is more related to performance than competitiveness and two terms may not be correlated positively. This indicates that IAs enhance competitiveness, but not necessarily provide good performance in the short-run. These results imply that companies with IA improve their competitiveness in all aspects except profitability, compared to the companies with no acquisition. The R-squares of some models ranged from 0.15 to 0.32.

### ***Factors That Affect the Success of IAs***

The main variables we studied in regard to the success of IAs are related to the resources and capabilities of the acquirer. We also examined two country-level variables to see how they impact IA success: cultural distance and growth of GDP. We regressed these factors for the post-acquisition competitiveness of IAs (Table 1.6). For each dependent variable, we applied two models: one with firm-level variables and one with all of the variables. The impact of intangibles on the success of an IA was positive and significant only for labor productivity in model 1, in which country-level factors are not included. Acquirers with a greater level of intangibles improved their productivity more after more after an IA. However, the coefficients of intangibles for other models were insignificant, which indicates that hypothesis 2 was partially supported. The third hypothesis is related to capabilities of the acquirer, and acquisition experience was used to measure it. The coefficients of acquisition experience are significant for all of the models, but the signs varied. Companies with higher acquisition experience improved their productivity, sales and market share less, whereas they had higher profitability and market value. This interesting result can be partly explained by the correlation between

**Table 1.4: Univariate analysis – impact of IAs on competitiveness of companies**

This table reports the results of the univariate analyses of acquirers' competitiveness after the IAs. Three benchmarking are used to assess this impact; competitiveness of acquirer before the IA, companies with domestic acquisition, and companies with no acquisition. The comparisons are conducted at three time frames; 1-year, 2-year, and 3-year after the acquisition. All of the variables are winsorized at 1% level. The difference scores represent the difference between post-acquisition (IA) competitiveness and benchmark (Post-acquisition of IA – Benchmarking). \*\*\*, \*\*, \* represent significance at 1%, 5% and 10% levels, respectively.

Variables	Post vs. Pre Acquisition			IA vs. No-Acquisition			IA vs. Domestic Acquisition		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Labor Productivity Growth	0.05***	-0.05***	-0.03***	0.034***	0.02	0.03	-0.05***	-0.04	-0.05
Sales Growth	-0.11***	-0.21***	-0.19***	0.084***	0.066*	0.120**	-0.067**	-0.129**	-0.152**
Market Share Growth	0.27***	-0.02***	-0.03***	0.13***	-0.04	-0.06	-0.08**	0.01	-0.03*
Tobin's Q	-0.07**	0.16***	0.34***	0.14	-0.01	0.10	0.09	-0.04	0.23
Return on Asset	-0.02***	-0.02***	-0.02**	-0.02***	-0.02***	-0.01*	-0.01	-0.01	0.00

**Table 1.5 Impact of IA on competitiveness; benchmarking with no-acquisition**

This table reports the results of the following pooled OLS regression:  $Competitiveness = a + b \times IA + c \times Controls + residual$ . It reports the results of combination of IAs and non-acquisition companies (control sample). Competitiveness has been measured for one-year after acquisition. The key variable of interest is IA, which is a dummy to measure whether acquisition is international or not. Heteroskedasticity-robust standard errors are used. All of the dependent variables are winsorized at 1% level. Year and industry effects are fixed by using dummies. The t-values associated with each coefficient are provided in parentheses. \*\*\*, \*\*, and \* represent statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)
	Labor Productivity Growth	Sales Growth	Market Share Growth	Tobin's Q	ROA
IA	0.03** (2.45)	0.08*** (3.84)	0.08*** (3.62)	0.14** (2.24)	-0.01* (-1.71)
Intangibles	0.07 (1.44)	0.12 (1.55)	0.15* (1.82)	-0.95*** (-3.98)	-0.03* (-1.73)
Capital Expenditures	0.40*** (5.12)	0.67*** (5.36)	0.76*** (5.38)	0.19 (0.74)	-0.12*** (-4.13)
Firm Size	-0.01*** (-3.10)	-0.04*** (-6.44)	-0.04*** (-6.34)	-0.08*** (-3.77)	0.02*** (9.13)
Industry	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes
Constant	0.26*** (2.77)	0.24*** (2.91)	0.30*** (3.38)	1.97*** (-8.25)	-0.009 (-0.37)
<i>N</i>	1770	1891	1890	1839	2345
<i>R</i> <sup>2</sup>	0.16	0.24	0.32	0.15	0.20

**Table 1.6 Factors that affect the success of IAs**

This table reports the results for the success factors of IAs. The sample of IAs is used for this analysis. For each dependent variable, first model contains the firm level success factors, and second model contains country-level factors as well. Heteroskedasticity-robust standard errors are used. All of the dependent variables are winsorized at 1% level. Year and industry effects are fixed by using dummies. The t-values associated with each coefficient are provided in parentheses. \*\*\*, \*\*, and \* represent statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Labor Productivity Growth		Sales Growth		Market Share Growth		Tobin's Q		ROA	
Intangibles	0.15*	0.09	0.07	-0.01	0.10	0.007	-1.48	-1.63	-0.05	-0.04
	(1.75)	(1.05)	(0.58)	(-0.13)	(0.75)	(0.05)	(-1.40)	(-1.48)	(-1.49)	(-1.22)
Experience	-0.01***	-0.01***	-0.02***	-0.02***	-0.02***	-0.02***	0.15***	0.14***	0.008**	0.008**
	(-2.74)	(-3.00)	(-4.25)	(-4.10)	(-4.21)	(-4.08)	(3.32)	(2.83)	(5.9)	(5.7)
Relatedness	0.05**	0.06**	0.08**	0.08**	0.09**	0.10**	0.46	0.54*	0.01	0.01
	(2.11)	(2.15)	(2.07)	(2.17)	(2.23)	(2.33)	(1.61)	(1.84)	(1.29)	(1.17)
Capital Expenditures	0.42***	0.48***	0.81***	0.89***	0.90***	0.99***	1.741	1.868	-0.13***	-0.14***
	(3.82)	(4.18)	(4.98)	(5.45)	(4.82)	(5.26)	(1.54)	(1.5)	(-2.89)	(-2.75)
Cultural Distance		0.06		0.10		0.09		-0.78**		0.006
		(1.55)		(1.29)		(1.21)		(-2.34)		(0.54)
GDP Growth		0.00		-0.009		-0.008		0.005		0.00
		(0.09)		(-1.28)		(-1.04)		(0.10)		(0.16)
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.29*	0.03	-0.03	0.13	0.01	0.19*	1.46**	1.67***	0.11***	0.10***
	-1.96	-0.44	(-0.29)	-1.34	-0.09	-1.92	-2.51	-3.15	-5.64	-4.54
<i>N</i>	911	831	938	856	937	855	920	844	1191	1090
<i>R</i> <sup>2</sup>	0.24	0.26	0.33	0.36	0.38	0.41	0.21	0.21	0.19	0.18

acquisition experience and firm size. We usually observe that larger firms have more acquisition experience. The growth in market share is relatively smaller for large firms, due to their size. However, the negative impact of experience on labor productivity is surprising. On the other hand, we found a positive impact for acquisition experience on the profitability of a company, and also for market value, which was measured by Tobin's Q. Like hypothesis 2, hypothesis 3 was partially supported. The last firm-level variable we analyzed is complementarity of resources, which was measured by the relatedness of the acquisition. Our results indicate that the growth in labor productivity, sales and market share is greater when the acquirer and the target are from the same industry. The positive impact on labor productivity is especially important, as it suggests that some synergies are created as a result of companies' being in the same industry. We also found a positive impact for relatedness on Tobin's Q in model 8. However, the impact of being in the same industry was insignificant for ROA.

We also tested the impact of cultural distance and GDP growth. The coefficients of cultural distance were insignificant for all of the models except for Tobin's Q. Cultural distance had a negative impact on post-acquisition Tobin's Q. Language and religion were used as complements of, or proxies for, cultural distance. Language barriers between two parties impede effective communication, which is very important in the post-acquisition process. Without effective communication, it is very difficult to correlate the resources of the acquirer and the target to create synergies. Religion is also a determinant of culture and shapes people's behavior. Religion is relatively less studied than culture. In one of the few studies in this area, Stulz and Williamson (2003) used religion and language as proxies for culture to examine their impact on investor rights

across countries. In addition to cultural distance, language and religion also have the potential to affect IA outcomes, and we used them in separate models. However, the results were similar to those for cultural distance and were insignificant. Therefore, we did not report them in the table. Finally, we checked for the attractiveness of the host country, which was measured by GDP growth. Companies use IAs as a fast and effective way to enter a market with expectations of future returns. Expected returns are mainly about the growth opportunities. Therefore, we predict that IAs in attractive markets would be more successful than those in less attractive ones. We used the GDP growth of a country as a proxy for its attractiveness. However, the coefficients for GDP growth were insignificant for all of the models. Our results suggest that country-level variables do not have an impact on the success of IAs. The r-squares of our models ranged from 0.18 to 0.41. Overall, our evidence suggests that firm-level variables explain variations in the outcomes of IAs, but we do not find supporting factors at the country-level.

### ***Robustness Tests***

#### *Benchmarking With All Companies*

We conducted various robustness checks to gauge the impact of IAs on competitiveness. First, we employed a multivariate analysis using the full sample, which contains all of the companies (see Table 1.7). We used two dummy variables for IA and domestic acquisitions. The coefficients of IA are all significant, with same signs, which shows that our results are robust. The coefficients of domestic acquisition are significant and positive for labor productivity, sales, and market share growth. However, these coefficients are greater than the coefficients of IA. This indicates that the impact of domestic acquisition is stronger compared to IAs. We also conducted an equality of

**Table 1.7: Impact of IAs on competitiveness – benchmarking with all companies**

This table reports the results of the following pooled OLS regression:  $Competitiveness = a + b \times IA + c \times Other\ IVs + d \times Controls + residual$ . Combination of IA, domestic acquisitions and non-acquisition cases is used as a sample. Different competitiveness measures are used and reported in different columns. Unless otherwise stated, the competitiveness has been measured for 1-year after acquisition. The key variable of interest is IA, which is a dummy to measure whether acquisition is international or not. Heteroskedasticity-robust standard errors are used. Year and industry effects are fixed by using dummies, but they are not reported in the tables here. The difference test refers to the test of equality between the coefficients of IA and domestic (p-values in parantheses). All of the dependent variables are winsorized at 1% level. The t-values associated with each coefficient are provided in parentheses. \*\*\*, \*\*, and \* represent statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)
	Labor Productivity Growth	Sales Growth	Market Share Growth	Tobin's Q	ROA
IA	0.03** (2.13)	0.09*** (3.98)	0.10*** (3.75)	0.14** (2.11)	-0.01** (-2.06)
Domestic	0.08*** (3.93)	0.12*** (4.66)	0.13*** (4.51)	0.08 (1.15)	0.008 (1.17)
Intangibles	0.07 (1.22)	0.05 (0.63)	0.06 (0.77)	-0.97*** (-5.26)	-0.01 (-0.67)
Capital Expenditures	0.00*** (3.00)	0.00*** (3.48)	0.00*** (3.47)	0.00 (0.98)	-0.00*** (-4.35)
Firm Size	-0.03*** (-5.37)	-0.07*** (-8.11)	-0.07*** (-7.93)	-0.07*** (-3.52)	0.02*** (10.53)
Industry	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes
Constant	0.33*** (3.5)	0.59*** (5.21)	0.69*** (5.64)	1.82*** (8.81)	-0.05*** (-2.63)
Difference test (IA vs. Domestic)	4.27** (0.04)	1.00 (0.32)	1.22 (0.27)	0.61 (0.44)	9.00*** (0.00)
N	2389	2526	2524	2478	3165
R <sup>2</sup>	0.08	0.13	0.20	0.14	0.15

coefficient test between IA and domestic acquisitions, and found that the coefficients of IA and domestic acquisitions are significantly different for labor productivity growth and ROA. Overall, the robustness tests with the full sample of companies support our main findings.

#### *Two-Stage Least Squares Estimation*

As another robustness test, we used two-stage least squares estimation to alleviate the endogeneity problem mentioned earlier. We used intangible assets, the credit rating, and the age of the CEO, as well as whether the company has had an IPO or not in last five years, as instruments for the propensity of a company to engage in an acquisition. For the propensity to engage in an IA rather than a domestic acquisition, we used the value of options, the age of the CEO, and leverage as these variables affect the decision between international and domestic acquisitions. These instrumental variables have been discussed in methodology section. In the first stage, we estimated the propensity of companies to engage in an IA, and in the second, we used the predicted score as an IA variable (Table 1.8). We conducted a 2SLS regression for all of the benchmarkings that we used. In Panel A of Table 1.8, the results of benchmarking against non-acquisition cases are presented for models one to five. Consistent with our main regression, the impact of IAs on competitiveness is positive and significant for all models except ROA. In models six to ten, we see the results of 2SLS estimation with domestic acquisitions as benchmarks. The impact of IAs is negative and significant for Tobin's Q and ROA. In general, the results of the 2SLS regression are consistent with our main analysis. The last three rows of Table 1.8 present the scores for the validity of the 2SLS estimation and instrumental variables. Wald score tests the null hypothesis that the instruments are weak in all of the

models in which the null hypothesis is rejected. This implies that our instruments are not weak. The Sargan score tests the null hypothesis that our instruments are valid and not over-identified. That null hypothesis is rejected for some models, which means some of the instruments could be excluded; however, we decided to retain all of the instruments, as we believed they were all relevant, and, in general, based on the Wald scores, they were not weak. The last item is the Hausman test score, which tests the hypothesis that the endogenous variables are actually exogenous. In most of the models, this hypothesis is rejected, which implies that the results of the 2SLS estimation were more robust. As the results of the 2SLS estimation were consistent with our main results, we were able to use both of them. Finally, Panel B of Table 1.8 presents the results of the 2SLS estimation using the whole sample. These results are important in terms of understanding whether the impacts of an IA and a domestic acquisition are different. The results show that the coefficients of IA and domestic acquisition differ for all of the models. The coefficients of IA and domestic acquisition were, again, consistent with our other analysis, which will be explained in the next section.

#### *Benchmarking With Domestic Acquisitions*

In the last robustness tests, we examined the impact of IAs by comparing them with the control sample composed of domestic acquisitions at the univariate and multivariate levels. Table 1.4 shows the results of the univariate analysis. The IA sample scored worse than the domestic acquisition sample in labor productivity, sales and market share growth. The impact of an IA was not significant for the other measures. According to these univariate results, which differ from the comparison with non-acquisition cases, companies with an IA did worse than companies with domestic acquisitions. The results

**Table 1.8: Impact of IA on competitiveness- 2-stage least squares estimation**

*Panel A: Benchmarking with control samples*

This table reports the results of the following 2SLS regression:  $Competitiveness = a + b \times IA + c \times Controls + residual$ . Year and industry effects are fixed by using dummies. We predicted the propensity of a company to engage in acquisition in the first stage and used predicted score in the second stage. Intangibles, leverage, credit rating, and IPO activity of the company, and age and options of CEO are used as instruments. The statistics about the validity of instruments are reported at last three rows of the table. \*\*\*, \*\*, and \* represent statistical significance at the 1%, 5%, and 10% levels, respectively.

	IA vs. No Acquisition					IA vs. Domestic Acquisition				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Labor Productivity Growth	Sales Growth	Market Share Growth	Tobin's Q	ROA	Labor Productivity Growth	Sales Growth	Market Share Growth	Tobin's Q	ROA
IA	0.81** (1.98)	3.42*** (2.99)	3.69*** (3.00)	10.91*** (2.91)	-0.27* (-1.89)	0.18 (1.00)	0.08 (0.35)	0.08 (0.34)	-3.20** (-2.42)	-0.17** (-2.52)
Intangibles	-0.15* (-1.81)	-0.62*** (-2.59)	-0.67*** (-2.58)	-2.91*** (-3.59)	0.03 (-1.49)	0.20** (2.23)	0.12 (1.38)	0.14 (1.51)	-1.76*** (-3.12)	-0.07** (-2.31)
Capital	0.00 (0.04)	0.00 (0.52)	0.00 (0.50)	0.00 (-0.08)	0.00 (1.3)	0.00 (1.34)	0.00* (1.81)	0.00* (1.85)	-0.00** (-2.03)	0.00 (1.15)
Expenditures	-0.02** (-2.41)	-0.11*** (-3.84)	-0.12*** (-3.86)	-0.42*** (-4.02)	0.008* (1.87)	-0.02* (-1.84)	-0.04*** (-3.71)	-0.04*** (-3.76)	0.17** (1.98)	0.01*** (2.94)
Firm Size	-0.02** (-2.41)	-0.11*** (-3.84)	-0.12*** (-3.86)	-0.42*** (-4.02)	0.008* (1.87)	-0.02* (-1.84)	-0.04*** (-3.71)	-0.04*** (-3.76)	0.17** (1.98)	0.01*** (2.94)
Constant	0.51*** (2.71)	1.38*** (3.91)	1.47*** (3.89)	5.57*** (5.05)	0.02 (0.54)	0.06 (0.48)	1.22*** (6.17)	1.23*** (5.8)	3.04*** (5.53)	0.22*** (3.5)
Wald <sup>a</sup>	3.91***	3.94***	3.94***	4.17***	6.61***	2.57**	2.56**	2.56**	2.57**	4.05***
Sargan <sup>b</sup>	0.33	0.46	0.47	0.07	0.01	0.006	0.04	0.03	0.00	0.54
Hausman <sup>c</sup>	0.01	0.00	0.00	0.00	0.02	0.18	0.59	0.60	0.002	0.00
N	5562	5676	5676	5502	7066	833	847	847	842	1076
R2	0.03	0.07	0.22	0.09	0.10	0.10	0.08	0.29	0.28	0.15

a. Walt score tests the null hypothesis that instruments are weak (joint significance of all of the instruments)

b. Sargan score tests the null hypothesis that our instruments are valid and they are not overidentified (p-values are provided)

c. Hausman score tests the hypothesis that the endogenous variables are actually exogenous (p-values are provided)

**Table 1.8-cont': Impact of IA on competitiveness- 2-stage least squares estimation**

*Panel B: Benchmarking with all companies*

This table reports the results of the following 2SLS regression:  $Competitiveness = a + b \times IA + c \times Controls + \text{residual}$ . The sample of all companies is used, which contain IAs, domestic acquisitions and non-acquisition cases. The competitiveness has been measured for 1-year after acquisition. Heteroskedasticity-robust standard errors are used. Year and industry effects are fixed by using dummies, but they are not reported in the tables here. We predicted the propensity of a company to engage in acquisition in the first stage and used predicted score in the second stage. Intangibles, credit rating, and IPO activity of the company, and age of CEO are used as instruments. The statistics about the validity of instruments are reported at last three rows of the table. The difference test refers to the test of equality between the coefficients of IA and domestic (p-values in parentheses). The t-values associated with each coefficient are provided in parentheses. \*\*\*, \*\*, and \* represent statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)
	Labor Productivity Growth	Sales Growth	Market Share Growth	Tobin's Q	ROA
IA	0.78** (2.00)	3.37*** (3.13)	3.68*** (3.14)	11.01*** (3.04)	-0.29** (-2.06)
Domestic	0.13** (2.56)	0.49*** (3.56)	0.54*** (3.58)	1.49*** (3.15)	-0.03** (-2.03)
Difference test (IA vs. Domestic)	3.61* (0.05)	9.33*** (0.002)	9.39*** (0.002)	9.05*** (0.002)	4.21** (0.04)
Intangibles	-0.129* (-1.69)	-0.57*** (-2.71)	-0.62*** (-2.70)	-2.79*** (-3.84)	0.03 (1.52)
Capital Expenditures	0.00 (0.03)	0.00 (0.51)	0.00 (0.49)	0.00 (-0.05)	0.00 (1.43)
Firm Size	-0.02** (-2.47)	-0.11*** (-4.09)	-0.12*** (-4.10)	-0.40*** (-4.13)	0.008** (2.04)
Constant	0.48*** (2.69)	1.32*** (4.09)	1.40*** (4.09)	5.31*** (5.28)	0.02 (0.62)
Wald <sup>a</sup>	4.31***	4.38***	4.38***	4.61***	7.37***
Sargan <sup>b</sup>	0.42	0.40	0.41	0.06	0.02
Hausman <sup>c</sup>	0.02	0.00	0.00	0.00	0.01
N	5890	6012	6012	5838	7508
R2	0.03	0.30	0.99	0.23	0.12

a. Walt score tests the null hypothesis that instruments are weak (joint significance of all of the instruments)

b. Sargan score tests the null hypothesis that our instruments are valid and they are not overidentified (p-values are provided)

c. Hausman score tests the hypothesis that the endogenous variables are actually exogenous (p-values are provided)

of the multivariate analyses (Table 1.9) are consistent with that finding. The coefficients for IAs show that an IA has a significant negative and impact on labor productivity, sales, and market share growth, but the impact is insignificant for Tobin's Q and ROA, compared to domestic acquisitions. However, we cannot see the magnitude of this impact for IAs and domestic acquisitions at these analyses and we need to check the results of multivariate analysis when we used all companies. As we can see at Table 1.7 the coefficients for both IA and domestic acquisition are positive, which indicates that acquisitions in general enhance competitiveness. However, this positive effect is stronger for domestic acquisitions compared to IAs. This can be due to several factors including the greater information asymmetry and integration problems at IAs, complexities that result from operating in a new environment, indirect effects due to stakeholders at host country, etc. We also tested the firm-level explanatory variables, using a combination of IAs and domestic acquisitions (Table 1.9). The intangibles of the acquirer have a positive impact on post-acquisition competitiveness in regard to labor productivity, sales, and market share. However, the impact was negative for Tobin's Q and ROA. We observed the reverse pattern for acquisition experience. Acquirers with more experience improved their productivity, sales, and market share less and their profitability more. In this sample, the impact of relatedness was insignificant for all of the models. We also looked to interaction variables to see whether the impact was different for IAs, compared to domestic acquisitions. The impact of intangibles was more positive in Tobin'Q for IAs, but there was no difference in the other variables. We also found a difference in relatedness. Being in the same industry affected IAs more positively than domestic acquisitions. Some of the results were different in this robustness test, which indicates

**Table 1.9: Impact of IAs on competitiveness– benchmarking with domestic acquisitions**

This table reports the results of the following pooled OLS regression:  $Competitiveness = a + b \times IA + c \times IVs + d \times Interaction\ variables + e \times Controls + residual$ . Combination of IA and domestic acquisitions (control sample one) are used as a sample. For each dependent variable, first model contains the firm-level success factors, and second model contains interaction variables as well. The key variable of interest is IA, which is a dummy to measure whether acquisition is international or not. Year and industry effects are fixed by using dummies, but they are not reported in the tables here. The difference test refers to the test of equality between the coefficients of IA and domestic (p-values in parentheses). All of the dependent variables are winsorized at 1% level. The t-values associated with each coefficient are provided in parentheses. \*\*\*, \*\*, and \* represent statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Labor Productivity Growth		Sales Growth		Market Share Growth		Tobin's Q		ROA	
IA	-0.07*** (-3.21)	-0.09*** (-2.62)	-0.06** (-2.23)	-0.07 (-1.47)	-0.07** (-2.34)	-0.09* (-1.72)	0.004 (0.05)	-0.10 (-0.78)	-0.01 (-1.57)	-0.008 (-0.54)
Intangibles	0.27*** (2.76)	0.28** (2.21)	0.23* (1.78)	0.31* (1.85)	0.26* (1.87)	0.33* (1.87)	-0.74*** (-2.61)	-1.10*** (-3.64)	-0.06* (-1.85)	-0.04 (-1.43)
Experience	-0.01*** (-3.73)	-0.01*** (-2.66)	-0.02*** (-5.50)	-0.03*** (-3.86)	-0.02*** (-5.38)	-0.03*** (-3.78)	-0.003 (-0.21)	0.02 (0.9)	0.008*** (6.1)	0.008*** (4.37)
Relatedness	0.03 (-1.05)	(0.05) (-1.27)	0.05 (1.43)	-0.04 (-0.88)	0.05 (1.37)	-0.06 (-1.09)	-0.005 (-0.05)	-0.16 (-1.22)	0.006 (0.64)	0.005 (0.37)
Capital Expenditures	0.57*** (5.52)	0.57*** (5.52)	0.87*** (4.95)	0.86*** (4.96)	0.96*** (4.86)	0.96*** (4.87)	0.50 (1.31)	0.49 (1.31)	-0.12*** (-2.87)	-0.12*** (-2.88)
IA x Intangibles		-0.027 (-0.20)		-0.18 (-0.98)		-0.17 (-0.87)		0.82* (1.86)		-0.02 (-0.50)
IA x Experience		0.004 (0.56)		0.006 (0.58)		0.008 (0.67)		-0.03 (-1.14)		0.00 (0.07)
IA x Relatedness		0.11** (2.27)		0.15** (2.2)		0.18** (-2.4)		0.23 (1.25)		0.001 (0.03)
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.03 (0.29)	0.04 (0.41)	0.38** (2.25)	0.39** (-2.13)	0.47*** (2.59)	0.49** (-2.46)	1.29*** (7.81)	1.35*** (8.08)	0.09*** (5.85)	0.09*** (-5.32)
N	1152	1152	1183	1183	1182	1182	1170	1170	1500	1500
R <sup>2</sup>	0.24	0.25	0.33	0.33	0.38	0.38	0.16	0.16	0.15	0.15

that the impact of an IA changes when we use a different benchmark. Moreover, the impact of success factors is not exactly the same for IAs and domestic acquisitions.

## **Discussion**

### ***Implications***

Competitiveness has been increasingly more important for companies, due to high pressures from rivals. The main purpose of this study is to understand the impact of IAs, which have been increasingly used by MNCs to boost competitiveness. Examining IAs in the context of competitiveness also sheds light on the M&A paradox and provides us with a better understanding of their impact. We examined this phenomenon by comparing companies engaging in IAs with non-acquisition companies and employing control sample methodology. Our results indicate that IAs have a positive impact on competitiveness, compared to not engaging in an acquisition. We observed that pattern in most of the dimensions of competitiveness, such as sales, market share, productivity and market value. The only dimension that was not positively affected was ROA, which is more related to the performance of companies than competitiveness. This result can also be explained by the time required for operational synergies to be realized. The findings also show that the impact of IAs can vary, based on the measures used. They suggest that companies that want to increase their market share and productivity can use IAs to enhance their competitiveness. However, IAs do not create the desired results in terms of profitability. As the outcome of IAs can vary across different dimensions, managers should identify their motivations/priorities and use IAs accordingly. One of the interesting findings of our study is the variance we found in the impact of IAs across

different benchmarkings. Companies with IAs seemed to outperform competitors that did not engage in an acquisition. However, the impact of an IA on competitiveness is less positive when compared to domestic acquisitions although acquisitions enhance competitiveness on average. In other words, the positive effect of acquisitions is stronger in domestic acquisitions compared to international acquisitions. One of the reasons for this finding could be the additional complexities and larger size of IAs compared to domestic acquisitions (Ahern, 2010). These complexities make integration process more difficult for IAs. Greater information asymmetry due to different environments of acquirer and target in IAs compared to domestic acquisitions can also be used to explain less positive effect of IAs. IAs can be associated with greater agency driven motivations as they increase the size and complexity of the acquirer more than domestic acquisitions. This can also lead to a less positive effect for an IA. Acquirers also face some additional costs due to the negative impact of other stakeholders such as local government and this can lower synergy creation of IAs.

Our study draws attention to the importance of benchmarking for M&A research. Benchmarks and the dimensions of competitiveness should be taken into consideration when assessing the impact of IAs, instead of making generalizations. The findings also have implications for defining the failure or success of IAs. We showed that the resources and capabilities of acquirers are crucial to the success of IAs, and companies should develop these to accomplish a successful IA. In other words, companies need to develop intellectual resources and commit to accumulating acquisition experience in order to succeed at IAs.

### *Limitations and Future Research*

This research has a number of limitations. We excluded firms for which we could not get sufficient data from Compustat and used only the public acquirers. This may limit the generalizability of our results to private acquirers. The criteria we used for creating the control sample is based on industry and firm size. However, there might be other factors, such as R&D intensity and leverage that affect the success of a company and the probability of its engaging in an acquisition. We would have gotten a better control sample if we had taken these factors into consideration using propensity score methodology. However, we alleviated some of the problem by using the two-stage least squares estimation.

Our study opens new and fresh avenues for research. First of all, we showed that acquisitions should be assessed from the perspective of competitiveness. Although most of the studies in the literature argue that acquisitions are failures, we found that, in most circumstances, they enhance competitiveness. This underlines the importance of having a clear definition of failure. An acquisition can seem to be a failure based on market response, but it can enhance the competitiveness of companies in terms of market share, productivity, and so forth. We need to reevaluate the belief that acquisitions are failures, as we showed that they enhance competitiveness. We found variation in the outcomes of acquisitions in terms of the benchmarks used and the different dimensions of competitiveness, which demonstrates the complexity of these events. In light of the previous argument, we need to clarify the benchmarks when assessing the impact of IAs. In addition, we cannot treat all acquisitions the same, as we showed that IAs and domestic acquisitions differ in terms of their impact. The causes of this variation can be

explored further. Our results provided partial support for the impact of intangibles on IA success. Intangibles can be developed in different ways such as patents, advertising, etc. The sources of the intangible assets and their impact on acquisition success would be worth examining for future research. We found that acquisition experience affects the success of an IA in different directions, and the reasons for that also call for further investigation. Another lesson of our study is that companies have different motivations for IAs, and the outcomes vary based on these motivations. The best way to determine the success of acquisitions would be to compare the motivations and outcomes, which could contribute significantly to the literature.

### ***Conclusion***

Competitiveness has become increasingly more important and has received increased attention from scholars. However, most studies examine this notion at the country and industry level using macro-level variables. We draw on studies where micro-level variables have been used to assess competitiveness at the firm level and examine the impact of an important organizational decision, whether or not to engage in an IA, on firm competitiveness. This also sheds light on the frequently asked question of why companies continue to use IAs, although many studies find that they destroy value. Hence, this paper takes a significant step as well toward filling this research gap in the M&A literature in terms of the M&A paradox. We examine IAs in a different context, which is competitiveness, and this also contributes to a better understanding of the determinants of competitiveness. Our results, different from most of the literature, suggest that IAs can increase the competitiveness of a company, especially in terms of market share and labor productivity growth, compared to a company with no acquisitions.

Our findings also indicate that IAs affect companies less positively compared to companies with only domestic acquisitions. The risks and uncertainties related to IAs are potential reasons for this. This also explains why we see mixed results regarding acquisitions in the literature. Their impact seems to change, depending on the methodology, measures and, most important, the benchmarks used. In conclusion, although several issues warrant further investigation, the present study takes significant steps towards understanding the impact and success factors of IAs.

Our study has contributed to the literature in many ways. The main theoretical contribution of our study is the recommendation to examine IAs from the perspective of competitiveness and view them as a determinant of competitiveness. Acquisitions are strategic actions that aim to improve the performance of the acquirers relative to competitors, and acquisition decisions are made by companies when they compare their positions to those of their rivals. However, few studies compare acquirers with other companies. As relative performance is the key to competitiveness, we created a control sample composed of companies without acquisitions and drew attention to the importance of benchmarking. We also examined the impact of IAs across various dimensions, which enhances our understanding of the issue. Another contribution of our project is that it introduces a set of firm-level factors related to the resources and capabilities of acquirers as determinants of the success of IAs.

## CHAPTER 2

### HOW DO ACQUISITIONS AFFECT CEO COMPENSATION?

#### Abstract

Although traditional governance theory expects CEO compensation to be linked to managerial performance, numerous empirical studies show that size is the main explanation for CEO compensation. Based on agency theory, it has been argued that CEOs use acquisitions for empire building, and hence increase their compensation. Thus, agency conflicts between CEOs and shareholders lead to higher post-acquisition compensation regardless of acquisition outcomes. On the other hand, stewardship theory questions the assumption of a conflict of interest between CEOs and shareholders. According to this theory, acquisitions do not necessarily increase CEO compensation. We examine the impact of acquisitions on CEO compensation, using a sample of U.S. acquisitions for the period 1995 to 2007. Consistent with the prediction of the agency view, we find greater CEO compensation following acquisitions compared to firms without acquisitions. We also examine the impact of an acquisition on the structure of CEO compensation and show that acquisitions lead to more incentive-based compensation, which provides evidence for the incentive alignment hypothesis. Differing from the prior literature, we distinguish between international acquisitions (IAs) and domestic acquisitions in terms of their impact on CEO compensation. Drawing upon matching theory, we hypothesize that IAs lead to higher CEO compensation compared to domestic acquisitions, as they increase the size and complexity of the firm more. We find a significant difference between IAs and domestic acquisitions in terms of the impact on CEO compensation, but the direction of difference was contrary to our expectations.

Based on the same notion, we show that unrelated acquisitions have a more positive impact on CEO compensation than related acquisitions, as they increase the complexity of the firm. Our study provides fresh insights and contributes to CEO compensation and acquisition literatures.

## **Introduction**

Top executives are primary decision makers and they shape the strategy of firms, which explains the performance of firms. Especially after recent financial crises, executive compensation has received much more attention by the media, and shareholders are also much more involved in this issue. For instance, the shareholders of Citigroup rebuffed the CEO's \$15 million pay package, marking the first time that shareholders united in opposition to outsized compensation (Silver-Greenberg & Schwartz, 2012). Executive compensation, as a driver of the behavior of top managers and company performance, has been widely studied in different streams of research. Traditional governance theory expects that executive compensation is comparable to managerial performance. However, numerous empirical studies show that there is little pay-for-performance (Murphy, 1999). Instead, firm size has been found to be the most influential factor in the amount of executive compensation (e.g. Duffhues & Kabir, 2008). In their well-known empirical study, Gabaix and Landier (2008) demonstrated that the firm size explains most of the patterns in CEO pay. They showed that both equilibrium CEO pay and stock market valuation increased by 500% between 1980 and 2003. The insensitivity of CEO compensation to firm performance reflects inefficiency in labor markets and is attributable to agency conflicts between shareholders and managers. According to agency theory, there is a conflict of interest between managers and

shareholders, and therefore, "There is a good reason to believe that the agent [manager] will not always act in the best interests of the principal" (Jensen & Meckling, 1976, p. 308). Based on this theory, it has been argued that executives tend to link their compensation to the factors that they control, mainly firm size (Kroll, Simmons, & Wright, 1990; Wright, Kroll, & Elenkov, 2002), and they use acquisitions to influence their compensation via an increase in size.

Acquisitions have been increasingly popular among companies. Especially in terms of international settings, international acquisitions (IAs) are preferred compared to Greenfield investments (Vermeulen & Barkema, 2001) and have been used extensively. Although Greenfield investment still accounts for two-thirds of foreign direct investment (FDI) flow, it has declined in last two years, whereas the number of IAs has been increasing (UNCTAD, 2012). Despite the frequent occurrence of IAs, findings in the literature show poor performance outcomes and high failure rates, which range as high as 83% (e.g., Bogan & Just, 2009; King et al., 2004; Moeller, Schlingeman, & Stulz, 2005; KPMG, 1999). Despite the fact that many acquisitions do not create value for shareholders, firms continue to use them (Bogan & Just, 2009), which raises the question of why. The opportunistic behavior of CEOs is one factor that believed to influence acquisition decisions. After examining the highest-paid CEOs, MacFadyen (2010) stated that the companies of these CEOs have one thing in common: they use mostly acquisitions for growth. Some may argue that this is a coincidence, but many others hold otherwise. According to Robert Mancuso, founder and managing partner of merchant bank the Dellacorte Group, entering a higher income bracket motivates CEOs to engage in more acquisitions (Macfadyen, 2010). Given the importance of acquisitions and

executive compensation, we explore the impact of acquisitions on the compensation of the highest-paid executive, the CEO.

The relationship between CEO compensation and acquisition has been mainly studied from the perspective of agency theory. This stream of research attempts to explain acquisition decisions in terms of agency problems, CEO hubris or overconfidence. According to this view, CEOs engage in acquisitions as a result of irrational or opportunistic behavior. Enjoying higher compensation after an acquisition creates a great incentive for a CEO to embrace an acquisition that might not benefit shareholders. Managers benefit from acquisitions by decreasing their employment costs and getting greater compensation as a result of a larger firm size (Amihud & Lev, 1981). Consistent with these views, some studies have found that CEOs increase their compensation and are financially better after acquisitions (Hardford & Li, 2007; Bliss & Rosen, 2001; Grinstein & Hribar 2004; Kroll, et al., 1990). In a more recent study, Fu et al. (2013) showed that CEO compensation is the main driver of acquisitions. We have seen examples of failed acquisitions a lot in the press, and CEOs are blamed for these failures. For instance, Rowley and Ebrahimi (2013) expressed the view of investors of Rio Tinto, the biggest mining company, about executives as follows: “Goodbye to the ego-driven chief executives who wasted billions on failed acquisitions.” In another recent case, HP wrote-off 8.8\$ billion after acquiring Autonomy. Investors filed a lawsuit against the executives, who led the failed acquisition for their own benefit (TelecomTVOne, 2013).

According to another body of literature, views based on agency theory about CEO compensation and acquisitions look puzzling. First of all, CEOs are concerned with their

reputations, which they do not want to risk by engaging in value-destroying acquisitions (Dutta, MacAulay, & Saadi, 2011). According to this view, "empire building" through acquisition is largely a thing of the past (MacFadyen, 2010). The followers of this view argue that significant public information is available in a very competitive labor market, making it difficult for CEOs to affect their compensation through acquisitions. In addition, the compensation of CEOs has increasingly contained more performance incentives, such as stock options and profit-sharing schemes. Thus, we should not expect CEOs to risk their long-term benefits for short-term acquisition bonuses (Dutta, et al., 2011). Based on this, it has been argued that compensation is much more related to performance than firm size, and that acquisitions are not used to advance CEOs' personal interests.

As stated earlier, the notion of opportunistic behavior on the part of CEOs regarding acquisitions is drawn from agency theory, which assumes that CEOs' and shareholders' interests are in conflict. This assumption is not fully accepted in the management literature, and there is also a theory that does not view the managers and shareholders as being in conflict. Unlike agency theory, which is predominantly used in the finance literature, stewardship theory argues that "managers will not act in self-serving and opportunistic ways unless their interests are clearly and directly at stake" (Lane, Canella, & Lubatkin, 1998, p.559). According to this theory, managers' interests do not necessarily conflict with those of shareholders, and therefore acquisitions cannot be viewed as involving self-interested behavior. Hence, acquisitions are not pursued at the expense of shareholders and do not have an impact on CEO compensation.

Agency and stewardship theory have different predictions in terms of the impact of acquisitions on CEO compensation. Given that there is much more public information about CEOs than in the past, and better monitoring of CEOs, which lowers the likelihood of opportunistic behavior, we explored whether CEOs use acquisitions to increase their compensation at the expense of shareholders. Investigating the impact of acquisitions on CEO compensation will enable us to see whether agency view can be used to explain acquisitions in terms of CEO compensation. In addition to the impact of acquisitions on CEO compensation, we examined how acquisitions affect the pay structure of CEOs. CEO compensation includes incentive components that are directly connected to performance, such as stocks and stock options. In order to lower agency costs, shareholders demand that there be more incentive components to CEO compensation. For instance, the shareholders of CitiGroup view the compensation program of executives as too subjective and not aligned to performance (Orsagh, 2013). They demanded that the board redesign CEO compensation to align it with shareholder interests (Orsagh, 2013). The incentive alignment hypothesis predicts that a more incentive-based pay package for CEOs will lower agency problems and will discourage CEOs from pursuing value-destroying acquisitions. In this study, we explore whether there is a change in the structure of CEO compensation toward more incentive-based compensation after an acquisitions.

Prior research commonly has considered domestic acquisitions when testing the impact of acquisitions on CEO compensation. However, IAs are different from domestic acquisitions in many respects, and their impact might be different as well. This limits the generalizability of the findings based on domestic acquisitions. Another empirical

question that we seek to address in this study is whether the impacts of an IA and a domestic acquisition on CEO compensation are the same. As stated earlier, CEOs want to increase the size of a firm to increase their personal benefits. Moreover, larger and more complex organizations are more difficult to manage, and as a result, CEO compensation increases with increasing size and complexity. IAs are typically larger than the domestic acquisitions, and they are also more complex to manage, due to differences between the institutions in two countries (Duru & Reeb, 2002). The larger size and greater complexity require greater skills and capabilities. Building on the matching theory of CEO compensation (Rosen, 1992), we predict that IAs will lead to higher increases in CEO compensation than domestic acquisitions, as they add more to the size and complexity of a firm.

Finally, we attempt to see how deal characteristics affect post-acquisition CEO compensation. The first characteristic we examine is the relatedness of the acquirer and the target. Like internationalization through an IA, investing in an unrelated industry diversifies a company and makes it more complex, but the increased complexity resulting from an unrelated acquisition requires different skills. As CEO compensation is related to the complexity of a firm, we can expect higher compensation increases associated with unrelated acquisitions, compared to related acquisitions. The last variable we investigate is deal size. When the target is larger, the increase in company size is larger. As CEO compensation is positively linked to firm size, we predict greater CEO compensation with increasing deal size.

We test our hypotheses on acquisitions that took place between 1995 and 2007. Our results indicate that companies with acquisitions have greater CEO compensation,

both in terms of level and growth. This finding is consistent with the agency view, which posits a positive relation between acquisitions and CEO compensation. We also find support for our argument about the impact of an acquisition on the structure of CEO compensation. The results reveal that acquisitions lead to more incentive-based compensation. In regard to the comparison between IAs and domestic acquisitions, we find evidence that they have different impacts on CEO compensation. However, in contrast to our expectation, IAs result in lower CEO compensation than domestic acquisitions. We also find some support for the impact of relatedness on compensation. Unrelated acquisitions affect CEO compensation positively and significantly compared to related acquisitions. However, the impact of the deal size was insignificant, except on salaries. Overall, our evidence suggests that acquisitions affect CEO compensation in terms of both level and structure. Moreover, this impact differs between IAs and domestic acquisitions, and also between related and unrelated acquisitions.

This study contributes to the literature on acquisition and on CEO compensation in several ways. First, we draw attention to the relation between acquisition and compensation, of which there are contradictory views. We provide support for the agency view, which posits that acquisitions lead to pay increases for CEOs. We also show that acquisitions not only affect the value of CEO compensation, but also change the structure of compensation. This can shed light on why there is an increasing use of acquisitions, despite high failure rates. The main contribution of this study is to examine the impact of different types of acquisitions on CEO compensation. Unlike earlier studies, this study distinguishes between IAs and domestic acquisitions and proves that their impacts are not the same. We also investigate important deal characteristics and

show how they affect CEO compensation. Although several issues warrant further investigation, the current study takes significant steps towards an understanding of the impact of different types of acquisitions on CEO compensation.

The remainder of the paper proceeds as follows: The next section presents a literature review and develops hypotheses. The third section presents the methodology and describes the data collection. The fourth section follows with a discussion of results, and we finish with a discussion of conclusions, implications, limitations, and suggestions for future research.

### **Literature Review and Hypothesis Development**

Companies have increasingly been using acquisitions as a business strategy, with different motivations, such as obtaining external knowledge, increasing innovativeness, and creating synergies. Nevertheless, many acquisitions affect firm performance negatively rather than positively (see King, et al., 2004 for a meta-analysis). Poor target selection (ineffective due diligence), integration (an inability to build synergy), or cost overruns (risk) (Hitt, Harrison, & Ireland, 2001) are some of the factors put forward to explain the value-destroying effect of acquisitions. The agency view has been predominantly used to explain the motivations for, and failures of, acquisitions in the finance literature. Subscribers to the agency view posit that agency problems between CEOs and shareholders (Jensen & Meckling, 1976), and the firm characteristics that exacerbate them, can explain the acquisition behavior of firms. In the agency view, the opportunistic behaviors of CEOs and their irrational behaviors, according to hypotheses of hubris or overconfidence, have been used to explain CEOs' decisions to pursue acquisitions. Nevertheless, these views of CEO behavior with respect to acquisition

decisions look puzzling (Yim, 2013). First of all, there is much more public information than in the past, and ineffective decisions on the part of CEOs are more likely to be observed by investors and the public. In an effective and competitive labor market, this compromises the reputation of a CEO, which in turn puts future returns and the career of a CEO at risk. Furthermore, there is an increase in stock ownership by CEOs and in other components of compensation linked to company performance. These should motivate CEOs to pursue only successful acquisitions instead of engaging in dubious acquisitions to increase their compensation. Stewardship theory, which has been mainly used in management research, also opposes the assumption that the interests of CEOs and shareholders are not aligned. For all these reasons, we believe that it is worth examining the relationship between acquisitions and CEO compensation. Our aim in this study is to investigate the impact of acquisitions on CEO compensation, and to shed light on whether agency theory predicts this impact accurately. We also attempt to study the impact of acquisitions on the structure of CEO compensation. In addition, almost all of the studies that examine the impact of acquisitions on CEO compensation use domestic acquisitions as a basis. We postulate that IAs have different characteristics and that their impact on CEO compensation might be different. We also aim to examine some deal characteristics that have the potential to affect post-acquisition CEO compensation. Before presenting the hypotheses, we will give a brief literature review of work on CEO compensation, which is the main theme of this study.

### *Determinants of CEO Compensation*

CEO compensation has been studied extensively in the management, finance, and accounting literatures. As the highest level of compensation in a firm, CEO compensation is difficult to determine. A common technique used by boards of directors is to compare CEO salaries among peer firms, of similar size and in the same industry. This method is used extensively, so that firm size has been found to be the factor with the most influence on the level of compensation (Gabaix & Landier, 2008; Bizjak, Lemon & Naveen, 2008; Core et al., 1999; Duffhues & Kabir, 2008). This view, however, does not take into consideration CEO ability and performance, suggesting that CEOs are paid like bureaucrats and that there is no relationship between CEO compensation and firm performance. For example, Jensen and Murphy (1990) argue that the incomes of most CEOs do not depend on the performance of their firms. However, Hall and Lieberman (1998) analyzed the largest US companies and found a strong association between CEO compensation and firm performance.

According to the neo-classical view, CEOs are rewarded for their skills and efforts, and their compensation reflects an alignment of their interests with shareholders' interests (e.g., Jensen & Meckling, 1976; Haugen & Senbet, 1981). Another view of CEO compensation is the managerial power perspective, which posits that executives use their power to influence their compensation (e.g., Core, Holthausen, & Larcker, 1999; Bebchuk, Fried, & Walker, 2002). This view suggests that when directors fail to fulfill their monitoring responsibilities, CEOs become entrenched and influence their own compensation (Finkelstein & Hambrick, 1989; Bebchuk & Fried, 2004; Barkema & Pennings, 1998). The impact of acquisitions on CEO compensation has been examined in

light of managerial power or agency problems. For instance, Masulis, Wang, and Xie, (2007) found that there was a higher increase in CEO pay after acquisitions when there were greater agency costs. CEO tenure has been used as a proxy for entrenchment, because CEOs can gain power through board selection with increasing tenure (Hermalin & Weisbach, 1998). Consistent with this, Cremers and Palia (2010) found tenure to affect CEO compensation positively. On the other hand, CEOs' ownership of shares from previous share awards and options increases with increasing tenure, which can align the CEOs' interests with those of shareholders'. Fu et al. (2013) also showed that overvaluation of targets and value destruction seem to be concentrated among firms with greater governance problems. Substantial stock ownership is another factor that can affect the entrenchment of CEOs and, hence, compensation (Finkelstein & Hambrick, 1989). These findings provide evidence for the agency view, and show that CEOs have a tendency to influence their compensation when they have power.

Board characteristics affect the governance of a firm, and they are viewed as explanatory variables for CEO compensation. One of the important roles of boards is monitoring and preventing the entrenchment of CEOs. For instance, independent directors can have a positive countervailing influence on powerful or entrenched CEOs (Bugeja, da Silva, Duong, & Izan, 2012). Building on this view, Hallock (1997) showed that interlocking boards affect CEO pay positively, and more board diversity affects CEO pay negatively. Similarly, Conyon and Peck (1998) pointed out that executive compensation and firm performance are more aligned when outsiders dominate the board. Board size affects CEO compensation as well, in terms of larger boards increasing the ability of CEOs to extract greater rents (Core et al., 1999). Another view regarding

boards suggests that directors' stock ownership aligns directors' interests with shareholders' interests and motivates them to monitor compensation better. Finally, institutional investors can play an important role in determining CEO compensation packages through their monitoring role (Hartzell & Starks, 2003; Ozkan, 2011). In sum, the literature suggests that there are some agency problems in firms, which led us to ask whether CEOs can use acquisitions to influence their compensation. We want to answer this question and see whether acquisitions affect CEO compensation.

### ***The Impact of Acquisitions on CEO Compensation***

The relationship between CEO compensation and acquisitions has been examined from two directions. One stream of research looks at this relationship in terms of how compensation affects acquisition behavior and outcomes. The basic notion is that the structure of CEO compensation affects the risk-taking behavior of a CEO, and hence the decision on whether or not to pursue an acquisition. This is based on the view that higher CEO vegas, the sensitivity of CEO wealth to firm risk, lead to riskier investment choices and bind corporate resources to riskier activities (Coles, Daniel, & Naveen, 2006; Guay, 1999; Rajgopal & Shevlin, 2002). The structure of an acquisition also affects its outcome. Datta, Iskandar-Datta, & Raman (2001) found a positive relationship between the equity-based compensation of executives and firm performance, in terms of market returns following an acquisition. Another body of research views compensation as an indicator of CEO power and agency problems, which in turn affect acquisition behavior and outcomes. For instance, Bebchuk, Cremers, and Peysers (2011) found that the CEO pay slice, calculated as a fraction of the aggregate compensation of the top five executive

team members captured by the CEO, is associated with agency problems, and results in more negative acquisition return announcements.

Previous research commonly has examined this relationship from another perspective, that is, in terms of how acquisitions affect CEO compensation. The question of whether CEOs use acquisitions to increase their compensation through an increase in firm size has been studied (Bodolica & Spraggon, 2009; Jaggi & Dorata, 2006; Grinstein & Hribar, 2004). Prior research shows that the CEOs of acquirer firms have higher compensation on average (Anderson, Becher & Campell, 2004; Grinstein & Hribar, 2004; Harford & Li, 2007). However, evidence about whether an acquisition is the reason for this higher compensation is mixed (Guest, 2009). In one study about this view, Bugeja et al. (2012) found significant increases in all components of CEO compensation, both in the year the acquisition was completed and in the year following. Bliss and Rosen (2001) examined US banks and found that CEO compensation increased after mergers, and they argued that these increases resulted from empire building instead of value creation. Anderson et al. (2004) also examined bank mergers and found a positive relationship between CEO compensation and anticipated merger gains. These studies, however, focused on specific industries, and the findings are difficult to generalize. In our study, we use a sample that contains firms from fifty-six industries.

The main theory that has been used in this stream of research is agency theory, which argues that CEOs engage in acquisitions for their own benefit instead of the shareholders' (Mueller, 1969; Shleifer & Vishny, 1988). According to agency theory, CEOs with low incentives and limited ownership put their personal interests first, instead of maximizing shareholders' value. This view sees acquisition as a way for CEOs to increase their

compensation through empire building. Company size explains a significant portion of CEO compensation (Tosi, Werner, Katz, & Gomez-Mejia, 2000), and compensation increases with firm size. Acquisitions are rapid growth mechanisms, and they can be used for empire building. Companies get larger after acquisitions, and this is then reflected in CEO compensation. This one-time action to expand the firm results in a future stream of compensation benefits (Ozkan, 2012). Especially if a CEO's pay is linked to the firm size, he or she is more motivated to grow the firm rapidly (Deyoung, Evanoff, & Molyneux, 2009). All of these factors reflect agency problems within the firm, and the intensity of these problems affects the impact of acquisitions on CEO compensation. One of the causes of agency problems is weak governance (Bertrand & Mullainathan, 2003; Masulis, et al., 2007). Ineffective compensation practices (Lewellen, Loderer, & Rosenfeld, 1985; Datta, et al., 2001) and an excessive free cash flow (Jensen, 1986; Harford, 1999) also create incentives for CEOs to engage in acquisitions. Overconfidence and hubris in CEOs are associated with a greater likelihood of acquisitions as well. All these agency problems predict an increase in CEO compensation following an acquisition, as CEOs use them to extract private benefits, which might include benefits besides the compensation. Gorton, Kahl, and Rosen (2009) suggest that CEOs engage in defensive or positioning acquisitions to prevent a firm from being acquired or to make it more attractive, both of which serve to protect the benefits of CEOs. Another mechanism that CEOs can use to increase their compensation is complexity. Acquisitions are complex events and they make a company more difficult to manage. This added complexity increases the CEO's compensation. One of the main counter arguments for the opportunistic behavior of CEOs regarding acquisitions is that CEO compensation

increases only after a successful acquisition. However, we have seen empirical evidence that contradicts this observation. For instance, Harford and Li (2007) show that CEO pay is not linked to company performance after an acquisition and that the CEOs of acquiring firms are still better off despite the fact that their shareholders are worse off. Similarly, Guest (2009) found that CEOs are rewarded equally for successful and failed acquisitions. Based on all these views, we propose that CEOs use acquisitions for their own benefit and that acquisitions lead to higher CEO compensation.

*Hypothesis 1: Acquisitions affect CEO compensation positively.*

### ***The Impact of Acquisitions on the Structure of CEO Compensation***

Another issue regarding CEO compensation is the structure. Agency theory assumes that managers avoid risk and do not have an incentive to put in a maximum effort. In addition, CEOs have interests different from the firms', and incentives should be used to align their interests with those of shareholders' (Jensen & Meckling, 1976). Consistent with this view, when managers' pay is unconstrained by directors or major shareholders, managers tend to structure their pay in keeping with variables that they control, such as firm size, instead of performance measures (Kroll, et al., 1990; Wright, et al., 2002). This view suggests that incentives should be used and that monitoring should be done effectively, in order to align managers' interests with the shareholders'. Contrary to this view, Zajac and Westphal (1994) argued that a high level of incentives and monitoring are not optimal every time as they have associated costs. Faleye, Hoitash, and Hoitash (2011) also showed that intense monitoring lowers the performance of a company, as its associated costs (e.g., lower advising) outweigh its benefits. Firm ownership structure is

another factor that affects compensation structure. Werner, Tosi and Gomes-Mejia (2005) showed that owner-controller and owner-managed firms use incentives more, not only for CEOs, but for all employees. Firm risk has also found to play role in the structure of CEO compensation. Bloom and Milkovich (1998) argued that higher-risk firms rely less on incentives than those with less risk. Acquisitions are risky decisions, and they have the potential to affect the structure of CEO compensation. Prior literature mainly examined how incentive-based compensation affects acquisition decision and success. In our study, we want to examine how the structure of CEO compensation changes after an acquisition. In other words, we want to see which component of the compensation changes more and what drives most of the increase in total compensation following an acquisition.

Acquisitions are usually associated with agency costs, since most acquisitions are value-destroying. Given that, in order to prevent a failed acquisition, there should be more incentives to align the interests of CEOs with those of shareholders. Hall and Liebman (1998) views stock options as an effective means of lowering agency costs and aligning the interests of executives and shareholders. Shleifer and Vishny (1988) also argue that, when agency problems exist in a company, CEO compensation should contain more variable pay after an acquisition. Consistent with this view, Bodolica and Spraggon (2009) show that boards of directors use more incentive-based compensation packages around mergers and acquisitions. Acquisitions are complex actions, and the integration process should be well managed in order to create synergies. This requires effort, and for an efficient integration, boards argue for more sensitivity to performance in CEO compensation (Hardford & Li, 2007). Anderson et al. (2004) showed that more incentives are included around bank mergers in order to improve managerial productivity. All these

lead to a more incentive-based compensation structure for CEOs. Another mechanism for a more incentive-based compensation is the large bonuses paid to CEOs following acquisitions (Grinstein & Hribar, 2004). Similarly, Harford and Li (2007) show that CEOs receive sizeable grants of stock and options during acquisitions. Therefore, we would expect a change in the structure of CEO compensation after an acquisition, with a higher incentive-based component, in order to align the interests of CEOs and shareholders.

*Hypothesis 2: Acquisitions lead to a more incentive-based compensation structure for CEOs.*

### ***The Impact of IAs Compared To Domestic Acquisitions***

In the previous section, we discussed the impact of acquisitions on CEO compensation, in terms of both level and structure. The extant literature mostly examines the relationship between acquisition and compensation using samples of domestic acquisitions (Guest, 2009). However, all acquisitions do not necessarily affect CEO compensation in the same way. Whether the acquisition is international or domestic is an important factor that may affect the impact. IAs have different characteristics than domestic acquisitions. For instance, IAs experience significantly lower announcement stock returns compared to domestic acquisitions (Conn, Cosh, Guest, & Hughes, 2005; Moeller & Schlingemann, 2005). Their impact on CEO compensation can be different as well. To the best of our knowledge, there are only two studies that examine the difference between IAs and domestic acquisitions in terms of the impact on CEO compensation. In the more recent of these studies, Ozkan (2012) found that foreign acquisitions

lead to higher CEO compensation than domestic acquisitions. However, this study was based on 147 acquisitions in the United Kingdom. In the other study, unlike Ozkan (2012), Guest (2009) found no evidence of higher CEO compensation in international acquisitions, compared to domestic acquisitions. This study was also based on UK acquirers and used only cash compensation as a measure, which does not accurately represent total compensation. Due to the inconsistent findings in these two studies, and also to the small and specific samples used, we believe that the difference between IAs and domestic acquisitions should be explored in terms of their impact on CEO compensation. We aim to determine whether CEOs receive greater private benefits, in terms of increased compensation, from engaging in IAs rather than domestic acquisitions, using a larger sample of US acquirers.

The main vehicle through which acquisitions affect CEO compensation is an increase in firm size. IAs are larger than domestic acquisitions (see Table 2.1 for descriptive statistics) and increase the firm size more. Moreover, companies involved in IAs have a greater correlation between firm size and CEO compensation than companies with domestic acquisitions (Ozkan, 2012). If the compensation is highly linked to firm size, CEOs have more of an incentive to engage in an IA to raise their compensation. Hence, IAs should increase their compensation more than domestic acquisitions.

Another way to look at the differences between IAs and domestic acquisitions is through the complexity of the firm. CEO compensation is positively correlated with firm complexity. When firms become more complex,

more skills and capabilities are required to manage them. International acquisitions increase the complexity of firms due to cultural differences, information asymmetry, geographic dispersion, and exchange rates (Duru & Reeb 2002). The matching theory (Rosen, 1992) predicts higher compensation for more skilled executives.

Another way that IAs lead to higher compensation is through internationalization. The literature shows evidence of a positive relationship between international scope and CEO compensation (Persons, 2001; Duru & Reeb, 2002; Ramcharran, 2002). IAs increase a firm's international scope and have a positive effect on CEO compensation. Therefore, we expect higher compensation after an IA than after a domestic acquisition.

In addition, IAs and domestic acquisitions differ in terms of risk. The proportion of variable pay in a CEO compensation package reflects how much risk is shared. To avoid risk in their compensation, CEOs usually want to minimize incentive-based compensation. Amihud and Lev (1981) argue that CEOs diversify their firms at the expense of profitability in order to reduce the risk they face from incentive-based compensation. One reason for firms to engage in IAs and invest abroad is to diversify their earnings and decrease volatility. When a company makes an IA, it can benefit from this diversification and decrease firm-specific risk. Miller, Wiseman and Gomez-Mejia (2002) found a negative and curvilinear relation between the proportion of variable pay in CEO pay packages and firm-specific risk. Therefore, as a firm becomes less risky in terms of earnings, CEOs may be more willing to share risk by accepting more incentive-based compensation. In another study, Coles et al. (2006) found that riskier policy

choices generally result in CEO wealth that is more sensitive to stock volatility. All these findings lead us to expect to see more incentive-based compensation after IAs. As the base salary, which is the fixed amount of the compensation, cannot be decreased (or it is very rare to see this), we expect more variable pay components to be included in the CEO compensation package, and as a result, a higher level of total CEO compensation after IAs than for domestic acquisitions. In sum, we expect higher CEO compensation after IAs than after domestic acquisitions.

*Hypothesis 3: IAs have a more positive effect on CEO compensation than domestic acquisitions.*

We also want to discuss an alternative view, which posits that IAs lead to lower increases in CEO compensation than domestic acquisitions. The main basis for this view is difference in the performance implications of international and domestic acquisitions. Markets usually view IAs as negative (Conn, et al., 2005; Moeller & Schlingemann, 2005), as they involve risk. The main source of this risk is the uncertainty of operating in a different environment. From this perspective, IAs should have a more negative impact on CEO compensation, especially if the compensation is linked to performance. Furthermore, IAs can affect the CEO compensation negatively as a result of monitoring by foreign owners. Ozkan (2012) showed that foreign institutional shareholders affect CEO compensation levels negatively following an acquisition, while domestic institutional shareholders did not have a significant impact on compensation. Foreign institutional investors provide more active monitoring after international acquisitions (Ferreira & Matos, 2008), and as they have more knowledge and experience about foreign operations, they can affect CEO compensation more in IAs than in domestic

acquisitions. Another difference between international and domestic acquisitions is anti-competitive effects. Domestic acquisitions provide more benefits to acquirers in terms of anti-competitive effects as they lower the competition within the home market. This can lead to more powerful CEOs, which in turn affect the CEO compensation more than IAs.

### ***Deal Characteristics***

Another strand of research suggests that the relationship between acquisitions and CEO compensation depends on various factors, such as monitoring, CEO power, and so forth. Grinstein and Hribar (2004) found that CEOs with more board power receive significantly larger post-acquisition bonuses. In contrast, in a recent study, Dutta et al. (2011) showed that the outcomes of acquisitions are not related to CEO power. Effectiveness of monitoring is a stronger factor affecting post-acquisition compensation. Wright et al. (2002) showed that post-acquisition CEO compensation is related more to the acquisition return at firms where effective monitoring exists. Similarly, post-acquisition CEO compensation is related more to the increase in firm size as a result of acquisitions at firms where the monitoring is passive. In another study, Paul (2007) examined the roles of boards and showed that board independence reduces the likelihood of completing a value-decreasing acquisition. In sum, several factors affect the post-acquisition CEO compensation. In this study, we wanted to assess the impact of deal characteristics. In other words, we want to shed light on how deal characteristics influence post-acquisition compensation.

The first deal characteristic we want to explore is the relatedness of the acquirer and the target. Companies sometimes acquire targets from different industries, for diversification purposes. If the industry of the target is unrelated and different, the

acquirer will need more capabilities to manage it. The increase in complexity calls for skills and capabilities. According to matching theory (Rosen 1992), CEO compensation is higher when there is greater complexity and a higher need for skills and capabilities. Thus, unrelated acquisitions should lead to higher CEO compensation than related acquisitions. Furthermore, unrelated acquisitions make the company a conglomerate and help the CEO with empire building. Therefore, we expect higher CEO compensation following unrelated acquisitions, compared to related acquisitions.

*Hypothesis 4: Unrelated acquisitions have a more positive effect on CEO compensation than related acquisitions.*

The last variable we attempt to investigate in terms of its impact on CEO compensation is deal size. The main reason why acquisitions result in higher compensation is the increase in size. When the value of the target is bigger, the effect on the firm size is larger, which in turn increases the CEO compensation more. That is why CEOs with more power are involved in larger deals (Grinstein & Hribar, 2004). Furthermore, CEOs tend to pay higher premiums, which are associated with greater private benefits (Grinstein & Hribar, 2004; Harford & Li, 2007; Loderer & Martin, 1990). Bonus payments to CEOs are another driver of CEO compensation after acquisitions, and deal size is a positive and significant indicator of the bonus pay received by CEOs (Coakley & Ilipoulou, 2006; Grinstein & Hribar, 2004). Larger targets are also more difficult to manage in terms of due diligence and integration, and they add to the complexity of the acquirer. This increased complexity also positively affects CEO compensation. Therefore, we expect to see higher CEO compensation when the size of the transaction is larger.

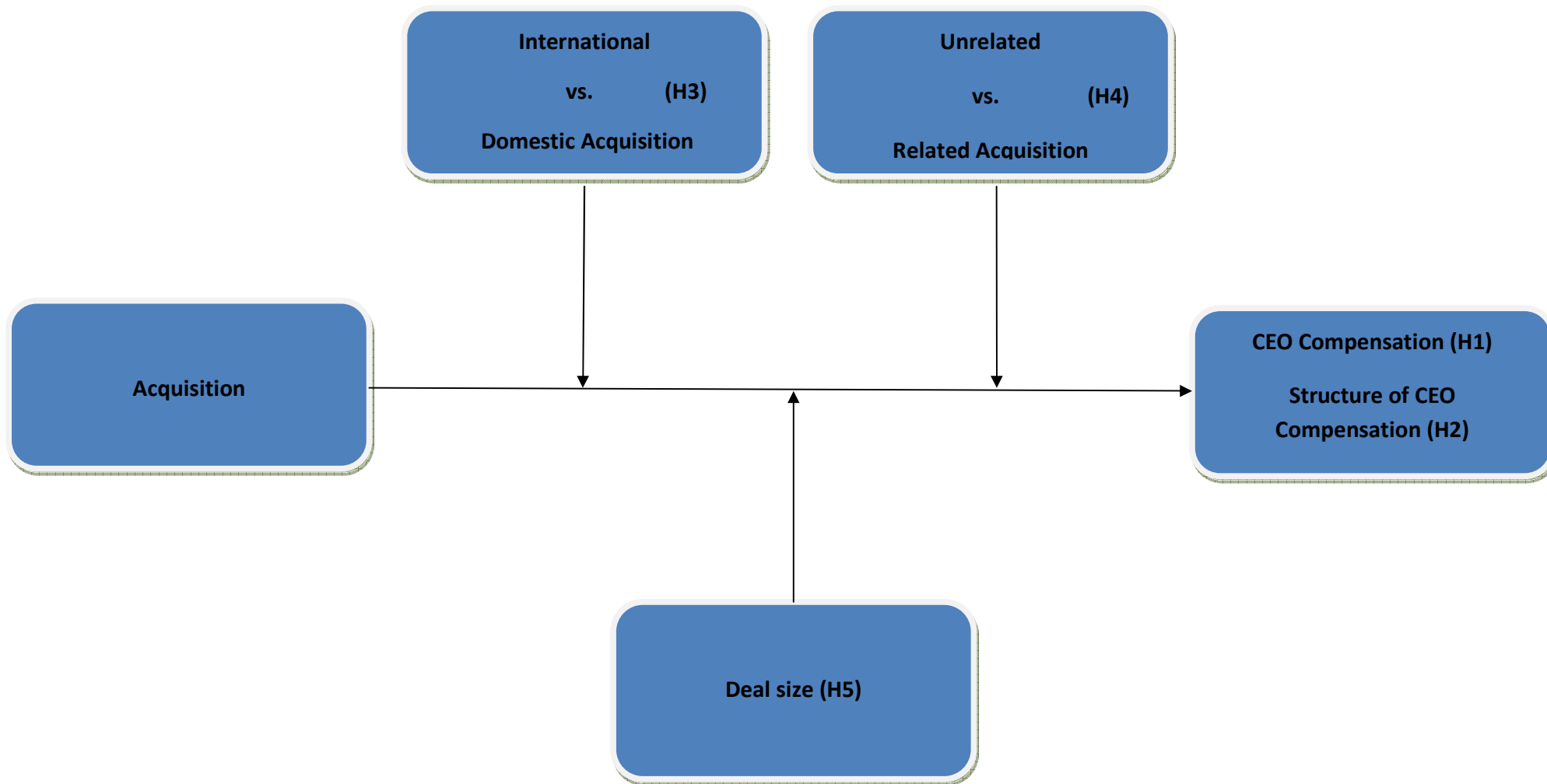
*Hypothesis 5: The greater the deal size, the larger the increase in CEO compensation after an acquisition.*

A representation of our model can be seen in Figure 2.1.

## **Methodology**

### ***Construction of the Sample and Data Collection***

The acquisition data come from the Securities Data Corporation (SDC) “Platinum” database; acquisitions that took place between 1995 and 2007 were used. The financial data for firms were taken from the Compustat Annual North America database. We checked and excluded the pending, intended, and withdrawn acquisitions and included only completed ones. As it is difficult to get CEO compensation data for private companies, we excluded them, too. We also used a sample of all firms between 1995 and 2007, excluding those that had an acquisition, as they were already included. All of the acquisitions in our sample were conducted by U.S. acquirers. Our acquisition sample contains both domestic and international acquisitions. The executive compensation data originated from Standard & Poor’s Execucomp, which collects compensation data on the top management teams of S&P 1500 firms. The lengths of CEO tenure and whether CEOs were listed in the compensation committee were obtained from the same database. We focused on individuals classified as CEOs by Execucomp. The database indicates the dates when the CEO assumed office and when the CEO left office, but in some cases, fails to identify an executive as a CEO, even though he or she appears to be the CEO according to these dates. We classified these individuals also as CEOs, in addition to the executives identified as CEOs by the database.



**Figure 2.1: Conceptual framework for impact of acquisition on CEO compensation**

Then, we combined the compensation data with the list of all firms; the final sample contained 19,168 firms operating between 1995 and 2007. Descriptive statistics about our sample can be found in Table 2.1. There are 3,344 firms with a domestic acquisition and 1,163 firms with an IA, and the remainder consists of 14,661 firms with no acquisition. The number of observations, the means and standard deviations of all of the variables are reported in Table 2.1. The descriptive statistics are presented in three panels: for non-acquisition companies, domestic acquisitions, and IAs. Panel D of Table 2.1 contains the observations over years. It also provides the number of domestic acquisitions and IAs, and the number of related versus unrelated acquisitions for each year. Finally, Table 2.2 provides the Pearson correlation coefficients of the variables used in the analysis.

### *Measurement of Variables*

The purpose of this study is to understand the impact of acquisitions on various dimensions of CEO compensation. We will discuss the variables in four groups: dependent, independent, control, and instrumental. Short descriptions of all of the variables can be found in Table 2.3.

### *Dependent Variables*

The main dependent variable in our analysis was CEO compensation. We mainly used the total CEO compensation for the first year following the acquisition. We complemented the total CEO compensation with components such as salary, bonus, options, and shares value. The dependent variable for our second hypothesis was

**Table 2.1 Descriptive statistics**

This table provides the summary statistics of our sample. Panel A, B, and C reports the means and standard deviations of variables for non-acquisition companies, domestic acquisitions, and IAs respectively. Statistics are reported for acquisition year and one-year after the acquisition. Panel D reports the observations over years in terms of characteristics of acquisitions.

*Panel A: Descriptive statistics for non-acquisition companies*

Variable	Acquisition Year			Post-Acquisition		
	N	Mean	Std. Dev.	N	Mean	Std. Dev.
Total compensation	14457	4312.67	9620.39	12102	4590.45	10100.08
Growth in total compensation	11601	0.35	1.15	11932	0.36	1.19
Salary	14661	635.87	344.38	12185	674.26	349.78
Bonus	14661	639.91	1388.28	12185	668.52	1782.81
Incentive based compensation	14433	0.50	0.28	12087	0.52	0.28
Options	12054	2038.02	9061.35	9151	2077.00	7137.74
Value of shares owned	13972	120.35	3637.91	11777	125.27	2407.92
Shares owned (change)	11153	99.00	669.85	11504	91.91	677.09
ROA	12714	0.12	0.12	12161	0.12	0.12
Tobin's Q	8685	2.00	1.59	7985	1.95	1.59
Size	14653	7.42	1.78	14653	7.42	1.78
Tenure	14006	7.18	7.40	14006	7.18	7.40

*Panel B: Descriptive statistics for domestic acquisition*

Variable	Acquisition Year			Post-Acquisition		
	N	Mean	Std. Dev.	N	Mean	Std. Dev.
Total compensation	3294	5960.82	15610.40	2799	6324.50	13182.11
Growth in total compensation	2638	0.63	2.02	2762	0.52	1.73
Salary	3344	631.74	384.88	2821	681.59	409.36
Bonus	3344	716.23	1703.27	2821	689.65	1644.57
Incentive based compensation	3292	0.55	0.29	2798	0.57	0.29
Options	2838	3402.93	9505.73	2166	3774.39	12669.68
Value of shares owned	685	107.42	1009.55	580	118.06	1156.53
Shares owned (change)	2518	284.33	1577.79	2663	236.80	1475.65
Deal size	3344	643.75	4435.50	3344	643.75	4435.50
ROA	636	0.13	0.12	599	0.12	0.14
Tobin's Q	420	2.34	1.78	383	2.05	1.37
Size	3344	7.22	1.53	3344	7.22	1.53
Tenure	3253	6.94	6.84	3253	6.94	6.84

**Table 2.1 – cont’:** Descriptive statistics*Panel C: Descriptive statistics for international acquisition*

Variable	Acquisition Year			Post-Acquisition		
	N	Mean	Std. Dev.	N	Mean	Std. Dev.
Total compensation	1149	7372.44	10209.24	962	7767.14	10457.24
Growth in total compensation	987	0.38	1.25	950	0.40	1.24
Salary	1163	765.61	438.10	973	814.11	481.14
Bonus	1163	1176.46	2161.67	973	1083.83	1880.03
Incentive based compensation	1148	0.57	0.27	961	0.61	0.26
Options	979	3635.38	8123.11	736	3830.29	7173.17
Value of shares owned	972	175.05	1809.40	822	67.13	201.10
Shares owned (change)	964	136.27	790.82	928	197.34	925.13
Deal size	1163	102079	2939700	1163	102079	2939700
ROA	882	0.15	0.08	835	0.14	0.08
Tobin's Q	644	2.25	1.69	604	2.08	1.34
Size	1163	8.23	1.98	1163	8.23	1.98
Tenure	1132	6.95	7.01	1132	6.95	7.01

*Panel D: Distribution of observations over years*

Year	Non-Acq	ACQ	IA	Domestic	Related	Unrelated	Total
1995	1,057	288	69	219	58	230	1,345
1996	1,083	324	69	255	75	249	1,407
1997	1,074	360	98	262	81	279	1,434
1998	1,080	392	101	291	77	315	1,472
1999	1,059	380	102	278	95	285	1,439
2000	1,033	369	94	275	66	303	1,402
2001	1,107	319	88	231	89	230	1,426
2002	1,110	342	83	259	88	254	1,452
2003	1,176	327	74	253	77	250	1,503
2004	1,166	351	96	255	93	258	1,517
2005	1,112	349	98	251	94	255	1,461
2006	1,229	350	98	252	98	252	1,579
2007	1,375	356	93	263	86	270	1,731
Total	14,661	4,507	1,163	3,344	1,077	3,430	19,168

**Table 2.2: Pearson correlation coefficients of variables in the study**

This table provides the Pearson correlation coefficients of the variables used in the study

	Var	1	2	3	4	5	6	7	8
IA	1	1.00							
Relatedness	2	0.20	1.00						
Deal size	3	0.06	0.07	1.00					
ROA	4	0.03	0.00	0.04	1.00				
Tobin's Q	5	-0.02	0.02	-0.01	0.24	1.00			
Size	6	0.20	0.08	0.09	0.10	-0.10	1.00		
Tenure	7	0.01	-0.02	0.01	0.02	-0.02	-0.12	1.00	
Committee	8	0.01	0.03	-0.02	-0.04	-0.02	-0.09	0.12	1.00

incentive-based compensation. The main measurement for this variable was the percentage of total compensation that was not fixed. We also complemented this with components of CEO compensation that are variable, such as options and share value. The dependent variables were measured as follows:

*CEO compensation.* We mainly used two variables to measure our central dependent variable. The first was total compensation, which consisted of salary, bonuses, other annual income, the total value of restricted stock granted, the total value of stock options granted (using Black-Scholes), long-term incentive payouts, and all other compensation. We used the log of total compensation for the year after the acquisition. We also calculated the percentage change in total compensation during the first year after the acquisition.

*Salary.* Another variable we used for CEO compensation is salary, which is measured by the log of the dollar value of the base salary (cash and non-cash) earned by the CEO during the fiscal year after the acquisition.

*Bonus.* This was measured by the log of the dollar value of the bonus (cash and non-cash) earned by the CEO during the fiscal year after the acquisition.

*Incentive-based compensation.* We measured the incentive-based part of the compensation by calculating the proportion of the compensation that was not fixed for each year. More specifically, we find the proportion of the compensation other than the salary.

$$\text{Incentive-Based Comp} = 1 - (\text{Salary} / \text{Total Comp.})$$

*Options.* These were measured by the log of the total value of stock options granted to CEOs (using Compustat Black-Scholes).

*Value of shares owned.* The value of shares was calculated by multiplying the number of shares owned by the CEO by the closing price of stock for that fiscal year, in thousands of dollars. We used the log of this calculated value.

*Shares owned (change).* This value consisted of the change in the number of shares owned by the CEO over the year following the acquisition.

#### *Independent Variables*

*ACQ.* ACQ is a dummy variable which captures the pay differential that acquiring CEOs received in the year after the acquisition. It is a dummy variable which takes the value of 1 if the firm has an acquisition in a specific year, and 0 otherwise. Thus, the coefficient of ACQ shows any reward that CEOs received after an acquisition that may have differed from the CEOs of non-acquisition companies.

*IA.* IA is a dummy variable that was used to differentiate IAs and domestic acquisitions. It is a dummy variable which takes the value of 1 if an acquisition was international and 0 if it was domestic.

*Relatedness.* This variable indicates whether the acquirer and the target are from same industry. It is a dummy that takes the value of 1 if they are from the same industry at the four-digit SIC level, and 0 otherwise.

*Deal size:* This value was measured by the log of the amount that the acquirer paid for the target company, in millions of dollars.

#### *Control Variables*

*Return on assets (ROA).* Accounting and stock market performances affect CEO compensation positively (Bugeja et al., 2012). The first variable we used to control for the effect of performance is ROA. It is calculated as earnings before interest, taxes, and depreciation (EBITDA), divided by the total assets for the year in which the acquisition took place.

*Tobin's Q.* Another variable we used to control the market performance of the acquirer was Tobin's Q. It was calculated as the market value of the company divided by the book value.

*Size.* Size was measured by the log of total assets.

*Tenure.* CEO tenure has been used as a proxy for managerial entrenchment, and Cremers and Palia (2010) showed that it affects CEO compensation positively. It is valued as the number of years an executive worked as the CEO of a given company.

*Committee.* This was measured with a dummy variable, and was assigned a value of 1 if the CEO was listed on the compensation committee and 0 otherwise.

### *Instrumental Variables*

We conducted two-stage least squares estimation for robustness checks, which will be discussed in following section. We employed five instrumental variables in the analysis. These instruments will be discussed in more detail at the next section.

*Intangibles.* It was measured intangible assets divided by total assets.

*CEO age.* We used the age of CEOs at the year of acquisition as an instrument for the propensity to engage in an acquisition.

*IPO.* We measured it with a dummy variable, which took a value of 1 if the firm had had an IPO in last five years, and 0 otherwise.

*Leverage.* We employed leverage as an instrument, and used long-term debt as a percentage of total assets to measure it.

*Cash holding.* This variable was measured as the amount of cash divided by sales for the year before the acquisition.

A short description of all of the variables can be found in Table 2.3.

**Table 2.3: Description of variables**

Variable	Description
Total compensation	Log of total compensation of CEO for the one year following the acquisition, comprised of the following: salary, bonus, other annual, total value of restricted stock granted, total value of stock options granted (using black-scholes), long-term incentive payouts, and all other total in thousands of dollars
Growth in total compensation	Percentage growth in total compensation from the year that acquisition take place to one year after the acquisition
Salary	Log of the dollar value of the base salary (cash and non-cash) earned by the CEO during the fiscal year in thousands of dollars
Bonus	Log of the dollar value of a bonus (cash and non-cash) earned by the CEO during the fiscal year in thousands of dollars.
Incentive based compensation	The proportion of the compensation that is not fixed
Options	Log of the total value of stock options granted (using compustat black-scholes) in thousands of dollars
Value of shares owned	Log of the value of shares, calculated by multiplying number of shares owned by CEO with by the closing price of stock for that fiscal year in thousands of dollars
Shares owned (Change)	The change in the number of shares owned by CEO in one-year following the acquisition
ACQ	Value of 1 if the company is involved in an acquisition, and 0 otherwise
IA	Value of 1 if the acquisition is international and 0 otherwise
Relatedness	Value of 1 if the acquirer and target are at the same industry at 4-digit level and 0 otherwise
Deal size	Log of the amount that acquirer paid for the target company in million dollars.
ROA	Earnings before interest, taxes, and depreciation (EBITDA) scaled by total assets
Tobin's Q	Market Value of the company divided by book value
Size	Log of total assets
Tenure	The number of years executive worked as CEO in that company
Committee	Value of 1 if CEO is listed in the compensation committee, and 0 otherwise
Intangibles	Intangibles assets scaled by total assets
CEO age	Age of the CEO at the time of the acquisition
IPO	Value of 1 if the firm has an IPO in last 5 years before the acquisition and 0 otherwise
Leverage	Long term debt scaled by total assets
Cash holding	The amount of cash divided by total sales for the year before the acquisition

## *Empirical Analysis*

### *Univariate Analyses*

We used univariate and multivariate analysis to test our hypotheses. We conducted three different analyses at the univariate level. First, we compared CEO compensation between companies with and without acquisitions, in order to test hypothesis 1, which concerns the impact of acquisitions on CEO compensation. We also compared CEO compensation before and after acquisitions, to test the same hypothesis. The same univariate analysis was employed for the variables related to hypothesis 2. We used only firms with acquisitions for this set of analyses. The last set of univariate analyses involved comparisons between IAs and domestic acquisitions. We used the sample of all acquisitions to see whether the impact of different type of acquisitions is the same. We conducted all of the univariate analyses for two different periods: for one year and for two years following the acquisition. A t-test was used to compare compensation-related variables.

### *Multivariate Analysis*

After the univariate analyses, we conducted multivariate analyses in order to test our hypotheses. First, we used the sample of all firms, including those with acquisitions, to see how acquisitions affect CEO compensation. We regressed the CEO compensation after an acquisition on the independent variables. The main variable of interest is the dummy for acquisition (ACQ), which shows whether the firm has engaged in an acquisition or not. We also used return on assets for the year of the acquisition (t), Tobin's Q, and size of the company, the tenure of the CEO, and whether the CEO was in

the compensation committee or not, as control variables. The model for this analysis is as follows:

$$CEO\ Comp._{(t+1)} = \beta_0 + \beta_1(ACQ) + \beta_2(Controls)_t + \varepsilon \quad (1)$$

This model was used to test hypothesis 1. We used a similar model to test hypothesis 2, with the only difference being the dependent variables. We used incentive-based compensation as the dependent variable, instead of total compensation. The model that we used to test hypothesis 2 is as follows:

$$Incentive-based\ Comp._{(t+1)} = \beta_0 + \beta_1(ACQ) + \beta_2(Controls)_t + \varepsilon \quad (2)$$

In the next multivariate analysis, we tested hypothesis 3, which involves the impact of IAs compared to domestic acquisitions. We used only the sample of acquisitions for this regression. The main independent variable in this analysis was IA, which is a dummy that shows whether the acquisition is international or not. The model for this set of analyses is as follows:

$$CEO\ Comp._{(t+1)} = \beta_0 + \beta_1(IA) + \beta_2(Controls)_t + \varepsilon \quad (3)$$

In the last analysis, we tested hypotheses 4 and 5, which concern deal characteristics. We ran a regression similar to the previous one, using the sample of acquisitions. We included the independent variables of relatedness and deal size to see whether or not they affected CEO compensation. The model for this set of analyses was as follows:

$$CEO\ Comp._{(t+1)} = \beta_0 + \beta_1(IA) + \beta_2(Controls)_t + \beta_3(Relatedness) + \beta_4(Deal\ size) + \varepsilon \quad (4)$$

All of the variables we used were winsorized 1% at each tail to reduce the impact of outliers. All the regressions in our analyses include fixed effects for the year the acquisition took effect and for the acquirers' industry. The regression coefficient estimates and their associated t-statistics are reported in the tables, with robust standard errors.

#### *Robustness Tests; Two-Stage Least Squares Estimation*

We conducted two-stage least squares estimation for robustness checks. The main purpose of this study is to assess the impact of acquisitions on CEO compensation. One can argue that acquisition decisions are not exogenous. The endogeneity of this decision can affect CEO compensation and make our results questionable. To alleviate this endogeneity problem, we employed 2SLS estimation. First, we use the instruments for predicting the likelihood of a firm's engaging in an acquisition or an international acquisition. We then used the predicted scores in the second stage for our main variables of ACQ and IA.

We used several instruments in this analysis. First instrument we used in the intangibles of acquirer as firms with greater intangible assets engage in more acquisitions (Huyghebaert & Luypaert, 2010). According to prospect theory, CEOs' decisions are affected by their characteristics. CEO age is one characteristic that affects risk-taking behavior. As they near retirement, older CEOs take fewer risks. Matta and Beamish (2008) found evidence for the career horizon argument, and showed that older CEOs have less incentive to engage in acquisitions. Hence, we used CEO age as an instrument to predict acquisition likelihood. We also employed instruments related to financial resources of the acquirer. Celikyurt et al. (2010) showed that companies that have had a

recent initial public offering (IPO) engage in more acquisitions. Therefore, we used the IPO activity of firms as an instrument the propensity to engage in an acquisition. As companies need to find financial resources in order to engage in acquisitions, being in financial distress lowers the propensity to engage in an acquisition (Chen et al., 2009).

Based on this, we used leverage as another instrument. Acquisitions can be financed with internal resources as well. A healthy level of cash, as a source of internal financing, can increase the likelihood of engaging in an acquisition (Harford, Mansi, & Maxwell, 2008) and we used cash holding as another instrument. We conducted two different 2SLS estimations. In the first one, we used the intangibles of the acquirer, IPO activity in last five years, and CEO age as instruments for a company's propensity to engage in an acquisition. In the second analysis, we distinguished between international and domestic acquisitions. The instruments we used were intangibles, leverage, and the IPO activity of the acquirer and CEO age.

## **Results**

### ***The Impact of Acquisitions on CEO Compensation***

We investigated the impact of an acquisition on the level and structure of CEO compensation for acquirer compared to companies without acquisition. First, we will discuss the results for the impact of an acquisition on the level of CEO compensation. Hypothesis 1 is based on agency theory and posits that CEOs engage in acquisitions for their own benefits and acquisitions increase CEO compensation. An alternative view on this issue is not to blame CEOs for acquisitions and their outcomes. Agency theory has not been accepted unequivocally in the management literature, in terms of explaining

managers' behaviors (Donaldson, 1990, 1995; Donaldson & Davis, 1991). Many management scholars challenge the assumption of conflicting interests between CEOs and boards (Finkelstein & D'Aveni, 1994). Stewardship theory, which is mainly accepted in the management literature, proposes that there is cooperative behavior between managers and shareholders (Lane et al., 1998). From this perspective, managers do not conflict with owners; instead, they cooperate because the well-being of the organization is beneficial to them. Some studies have arrived at results in accord with this view. Martin and Davis (2010) argued that CEOs seek acquisitions to improve their ability to manage risky and complex situations. According to their study, the main motivation behind acquisitions is learning instead of hubris. Lambert and Larcker (1987) also disagree with the assumption that CEOs interests are not aligned with those of shareholders. They found increased CEO compensation only after acquisitions that increased shareholder value. Similarly, Girman, Thompson, and Wright (2006) suggest that the impact of an acquisition on CEO compensation is based on the success of the acquisition, and they document that CEOs who make value-enhancing acquisitions receive significantly higher cash pay than their counterparts with wealth-reducing acquisitions. Another argument against the agency view is that there is much more public information than in the past, which makes it difficult for CEOs to behave in opportunistic ways. Moreover, CEOs have long careers, and perceptions of opportunistic behavior can harm their position in the labor market. The increasing use of stocks and options in CEO compensation also leads us to question the predictions of agency theory. The argument is that, because CEO compensation is highly linked to the performance of firms, it is not rational for CEOs to engage in acquisitions that are not value-enhancing. All these views

question the agency theory in terms of explaining the relation between acquisition and CEO compensation. Our findings will shed light on this controversial issue.

The results of the univariate analysis (Table 2.4) show that the level of CEO compensation is higher for acquirers compared to non-acquirers. Table 2.4 documents the difference in the means of compensation for the CEOs of acquiring and non-acquiring companies. We observe a positive difference in all of the components of CEO compensation. We also examined post-acquisition CEO compensation, compared to the pre-acquisition period. The total compensation is higher after than before, but the growth in total compensation is lower. Like total compensation, salaries are higher after acquisitions, but bonuses are lower. As we are not able to control other factors that affect CEO compensation, the univariate analyses do not give us the best picture. Therefore, we look to the results of the multivariate analyses. Table 2.5 reports the results for these. The dummy ACQ has a positive and significant coefficient for both total compensation and total compensation growth. This indicates that acquiring companies have higher compensation and growth in compensation than non-acquisition companies. The coefficients of ACQ for salary and bonus are not positive and significant, but they are positive and significant for shares and options. This implies that options and stock value are the main drivers of a compensation increase after an acquisition. Our results provide support for hypothesis 1 and agency view, which states that acquisitions lead to higher compensation. Despite the high availability of public information and use of incentives, there are still agency problems and CEO compensation increases after acquisitions.

Next, we will discuss the results relating to hypothesis 2, which concerns the structure of CEO compensation. The main variable we used was incentive-based

**Table 2.4: Univariate analysis – impact of acquisition on CEO compensation**

This table reports the results of the univariate analyses of the impact of acquisition on CEO compensation. This impact is assessed by comparing the post-acquisition compensation with non-acquisition companies and also with pre-acquisition compensation. Post-acquisition compensation is compared between international acquisitions and domestic acquisitions as well. CEO compensation has been measured by different ways. Incentive-based compensation is the proportion of total CEO compensation that is variable. The comparisons are conducted at two time frames; 1-year and 2-year. The difference scores represent the difference between post-acquisition CEO compensation and benchmark and the difference between IA and domestic acquisitions. \*\*\*, \*\*, \* represent significance at 1%, 5% and 10% levels, respectively.

	All firms		All acquisitions			
	Acquisition vs. No Acquisition		IA vs. Domestic Acquisition		Post vs. pre acquisition	
	Year 1	Year 2	Year 1	Year 2	Year 1	Year 2
Total compensation	2103.1***	2327.7***	1442.6***	1181.8*	385.4	1057***
Growth in total compensation	0.1***	0.1***	-0.12**	-0.15**	-0.09**	-0.1***
Salary	41.3***	53.7***	132.5***	117.4***	50.7	92.7***
Bonus	122.2***	136.8***	394.2***	298.3***	-61.0**	-48.6
Incentive based compensation	0.06***	0.07***	0.04***	0.03***	0.02***	0.04***
Options	1711.6***	1667.3***	55.9	170.5	330.4	385.6
Value of shares owned	317924***	569999***	554546	836727	291876	503384
Shares owned (Change)	134.7***	77.7***	-39.5	-29.7	-6.6	-62.3*

**Table 2.5: Impact of acquisitions on CEO compensation**

This table reports the results of the following pooled OLS regression:  $CEO\ Compensation = a + b \times ACQ + c \times Controls + residual$ . All firms with and without acquisition are used for this analysis. All dependent variables have been measured for 1-year after acquisition. The key variable of interest is ACQ, which is an indicator variable that has a value of one if the firm has an acquisition in the same year. In addition to total CEO compensation, components of the compensation are used to assess the change in structure of compensation. Incentive-based compensation is the proportion of total CEO compensation that is variable. Heteroskedasticity-robust standard errors are used. Year and industry effects are fixed by using dummies. The t-values associated with each coefficient are provided in parentheses. \*\*\*, \*\*, \* represent statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Comp.	Growth in Total Comp.	Salary	Bonus	Incentive based Comp.	Options	Value of shares owned	Shares owned (Change)
ACQ	0.09*** (2.72)	0.08* (1.66)	-0.10** (-2.08)	-0.008 (-0.19)	0.01** (2.01)	0.13*** (2.82)	0.12* (1.87)	78.98** (2.22)
ROA	0.36*** (3.18)	-0.43** (-2.52)	0.48*** (5.05)	0.94*** (5.23)	-0.04 (-1.32)	0.12 (0.69)	2.05*** (8.27)	-110.19 (-1.16)
Tobin's Q	0.11*** (9.68)	0.07*** (4.34)	-0.03*** (-2.76)	0.02** (2.46)	0.03*** (9.94)	0.25*** (19.89)	0.28*** (16.43)	48.40*** (3.74)
Size	0.44*** (56.2)	-0.001 (-0.08)	0.20*** (20.87)	0.41*** (43.07)	0.05*** (27.68)	0.49*** (41.23)	0.43*** (28.73)	29.62*** (4.01)
Tenure	-0.005** (-3.44)	-0.006** (-3.26)	0.004*** (4.12)	0.006*** (3.09)	-0.005** (-11.50)	0.005* (1.96)	0.11*** (35.26)	5.62*** (3.38)
Committee	-0.20*** (-4.86)	-0.07 (-1.24)	-0.22*** (-3.32)	-0.15*** (-2.80)	-0.05*** (-3.82)	-0.08 (-1.16)	0.42*** (4.44)	72.06 (1.61)
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	4.01*** (55.39)	0.46*** (4.45)	4.72*** (51.03)	2.71*** (29.89)	-0.023 (-1.14)	2.35*** (21.64)	3.86*** (27.63)	- 225.13*** (-3.29)
N	7565	7478	7588	5330	7565	4503	7281	7214
R <sup>2</sup>	0.44	0.04	0.18	0.39	0.26	0.44	0.36	0.04

compensation. As can be seen in Table 2.5, the coefficient of ACQ is positive and significant, which reveals that the incentive-based component of compensation is greater for firms with acquisitions than for non-acquisition firms. The coefficient of ACQ is still positive and significant when we use other dependent variables, such as stock value, change in shares owned, and options. Our results provide support for hypothesis 2, and indicate that CEO compensation moves toward a more incentive-based structure after acquisitions. The results of the univariate analyses are almost consistent with the results of the multivariate analyses.

### ***The Impact of IAs Compared To Domestic Acquisitions***

Next, we examined the impact of IAs compared to domestic acquisitions, in order to test hypothesis 3. We used the dummy for IA in our regression, and the sample of acquisitions only. The results in Table 2.6 show that IA has a negative effect on CEO compensation compared to domestic acquisitions. The negative and significant sign of the coefficient of IA for total compensation contradicts our hypothesis. IA also has a negative and significant coefficient for the value of options.

The coefficients of IA for the rest of the models are insignificant. The results of this analysis do not support hypothesis 3, and they reveal a negative impact of IAs compared to domestic acquisitions. We obtained different results from the univariate analyses, as the total compensation was higher in firms with an IA than in those with domestic acquisitions. This was the case for salaries and bonuses as well. However, we cannot control for size at the univariate analysis. The higher CEO compensation after IAs is mainly as a result of greater firm size. At the multivariate analysis where we control for

**Table 2.6: Impact of IAs on CEO compensation compared to domestic acquisitions**

This table reports the results of the following pooled OLS regression:  $CEO\ Compensation = a + b \times IA + c \times Controls + residual$ . All firms with acquisition are used for this analysis. All dependent variables have been measured for 1-year after acquisition. The key variable of interest is IA, which is a dummy to measure whether the acquisition is international or domestic. It shows the difference in CEO compensation between international and domestic acquisitions. In addition to total CEO compensation, components of the compensation are used to assess the change in structure of compensation. Incentive-based compensation is the proportion of total CEO compensation that is variable. Heteroskedasticity-robust standard errors are used. Year and industry effects are fixed by using dummies. The t-values associated with each coefficient are provided in parentheses. \*\*\*, \*\*, \* represent statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Comp.	Growth in Total Comp.	Salary	Bonus	Incentive based Comp.	Options	Value of shares owned	Shares owned (change)
IA	-0.13* (-1.90)	-0.13 (-1.30)	0.19 (1.48)	-0.06 (-0.72)	-0.01 (-0.70)	-0.24** (-2.50)	-0.18 (-1.35)	-11.47 (-0.13)
ROA	-0.01 (-0.03)	0.04 (0.09)	0.49 (0.79)	-0.18 (-0.44)	-0.01 (-0.08)	-1.07*** (-2.82)	2.97*** (2.88)	-285.40 (-0.55)
Tobin's Q	0.16*** (3.05)	0.04 (0.91)	-0.04 (-0.92)	0.03 (1.14)	0.03** (2.55)	0.33*** (11.07)	0.32*** (7.31)	91.18 (1.26)
Size	0.45*** (18.45)	-0.01 (-0.38)	0.19*** (4.11)	0.41*** (15.18)	0.04*** (6.57)	0.48*** (15.43)	0.50*** (12.36)	90.18** (2.53)
Tenure	-0.004 (-0.69)	-0.005 (-0.49)	0.008 (1.38)	0.00 (0.05)	-0.003** (-2.01)	0.005 (0.43)	0.12*** (8.21)	11.14 (1.46)
Committee	-0.19 (-1.18)	-0.52** (-2.48)	-0.70 (-1.49)	-0.19 (-1.03)	-0.04 (-0.87)	-0.13 (-0.52)	-0.251 (-0.48)	60.58 (0.29)
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	4.16*** (16.31)	1.06** (2.53)	4.64*** (-9.28)	2.94*** (11.04)	0.09 (1.34)	3.02*** (10.32)	3.37*** (7.96)	-790.2** (-2.63)
N	846	838	849	621	846	557	815	805
R <sup>2</sup>	0.52	0.14	0.15	0.46	0.27	0.56	0.43	0.11

firm size, the coefficient of IA becomes negative. The results in opposite direction can be explained by the performance implications of two types of acquisitions. IAs usually have lower performance than domestic acquisitions. Based on the view that CEO compensation is related to firm performance, IAs can lead to lower increases in CEO compensation compared to domestic acquisitions. Anti-competitive effects of domestic acquisitions can also increase CEO compensation more in domestic acquisitions as CEOs increase their power. Lastly, foreign institutional shareholders have a better monitoring compared to domestic shareholders and they prefer larger and more internationalized companies. As IAs are larger and make firms more internationalized, there are more foreign institutional shareholders which lead to better monitoring of CEOs. Consistent with this view, Ozkan (2012) found that foreign institutional blockholders have a negative effect on CEO pay following IAs whereas domestic blockholders do not. This can be another explanation of negative impact of IA on CEO compensation compared to domestic acquisitions.

### ***The Impact of Deal Characteristics on CEO Compensation***

The last analysis addressed the impact of deal characteristics on CEO compensation. Table 2.7 presents the results for CEO compensation regressed on deal characteristics. The first deal characteristic we examined was the relatedness of the acquirer and the target, which is addressed in hypothesis 5. The coefficient of relatedness for total compensation was negative, suggesting that related acquisitions lead to lower compensation compared to unrelated acquisitions, which provides support for hypothesis 5. The coefficient of relatedness is insignificant for other models except incentive-based

compensation. The negative coefficient of relatedness suggests that unrelated acquisitions lead to more incentive-based compensation, which is consistent with our expectations.

Another deal characteristic that we tested was deal size. We hypothesized that a larger deal size would have a positive effect on CEO compensation. The coefficients of deal size were insignificant except for salary. This reveals that the post-acquisition salary is higher when the deal size is greater. This result provides partial support for hypothesis 5. Overall, our results indicate that an acquisition affects CEO compensation and that certain characteristics of acquisitions also influence CEO compensation, which provides evidence for most of our hypotheses.

#### ***Two-Stage Least Squares Estimation***

As we mentioned in the analysis section, we conducted 2SLS estimation to check the robustness of our findings. First, we employed this analysis to assess the impact of acquisitions. Intangibles and the IPO activity of the acquirer and CEO age affect the propensity of firms to engage in acquisitions, and we used them as instruments. In the second stage, we used the predicted score for ACQ and regressed it on dependent variables. The results can be found in Panel A of Table 2.8. Consistent with our main findings, the coefficient of ACQ was positive and significant for all of the models, except for salary. These results support our main hypothesis about the impact of acquisitions on CEO compensation.

We conducted the same 2SLS estimation to assess the impact of IAs compared to domestic acquisitions. In addition to the intangibles of the acquirer and CEO age, we used the leverage and cash holdings of the acquirer as instruments, as they affect the

**Table 2.7: Impact of deal characteristics on CEO compensation**

This table reports the results of the following pooled OLS regression:  $CEO\ Compensation = a + b \times Relatedness + c \times deal\ size + d \times Controls + residual$ . All firms with acquisition are used for this analysis. All dependent variables have been measured for 1-year after acquisition. The key variables of interest are relatedness of the acquisition and deal size. In addition to total CEO compensation, components of the compensation are used to assess the change in structure of compensation. Incentive-based compensation is the proportion of total CEO compensation that is variable. Heteroskedasticity-robust standard errors are used. Year and industry effects are fixed with dummies. The t-values associated with each coefficient are provided in parentheses. \*\*\*, \*\*, \* represent statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Comp.	Growth in Total Comp.	Salary	Bonus	Incentive based Comp.	Options	Value of shares owned	Shares owned (change)
IA	-0.09 (-1.27)	-0.11 (-1.11)	0.23 (1.62)	-0.04 (-0.44)	0.00 (-0.21)	-0.22** (-2.23)	-0.20 (-1.50)	-53.35 (-0.54)
Relatedness	-0.21*** (-3.07)	-0.11 (-1.02)	-0.22 (-1.57)	-0.11 (-1.23)	-0.04** (-2.17)	-0.09 (-0.78)	0.10 (0.70)	206.12* (1.74)
Deal size	0.02 (1.21)	0.02 (0.47)	0.03* (1.66)	-0.02 (-0.58)	0.00 (0.46)	0.00 (0.11)	0.01 (0.41)	18.30 (1.03)
ROA	-0.02 (-0.04)	0.05 (0.09)	0.50 (0.79)	-0.19 (-0.45)	-0.02 (-0.10)	-1.07*** (-2.84)	2.99*** (2.91)	-258.89 (-0.50)
Tobin's Q	0.16*** (3.15)	0.04 (0.92)	-0.04 (-0.95)	0.04 (1.28)	0.03*** (2.63)	0.34*** (11.03)	0.32*** (7.17)	84.96 (1.16)
Size	0.44*** (16.68)	-0.02 (-0.58)	0.17*** (3.43)	0.42*** (12.86)	0.04*** (5.98)	0.48*** (14.18)	0.50*** (11.53)	81.00** (2.50)
Tenure	0.00 (-0.63)	0.00 (-0.48)	0.01 (1.40)	0.00 (0.05)	-0.003* (-1.94)	0.01 (0.47)	0.11*** (8.16)	10.74 (1.40)
Committee	-0.18 (-1.08)	-0.51** (-2.41)	-0.68 (-1.43)	-0.20 (-1.04)	-0.04 (-0.81)	-0.14 (-0.54)	-0.25 (-0.48)	57.77 (0.28)
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	4.17*** (16.53)	1.07** (2.53)	4.65*** (9.42)	2.95*** (11.14)	0.10 (1.39)	3.01*** (10.16)	3.36*** (7.96)	-805.3** (-2.68)
N	846	838	849	621	846	557	815	805
R <sup>2</sup>	0.53	0.15	0.16	0.46	0.27	0.56	0.43	0.11

likelihood of companies engaging in an IA. The results of 2SLS estimation for the impact of IAs are reported in panel B of Table 2.8. As in the main analysis, the coefficient of IA is negative and significant for total compensation and options. It is insignificant for the rest of the models were in the main analysis. However, in 2SLS estimation, the growth in total compensation seems to be higher for IAs, which differs from the main results but supports our hypothesis. On the other hand, the coefficient of bonuses is negative and significant. In sum, the results of 2SLS estimations are consistent with our main results, except for the impact of an IA on the growth of CEO compensation. The Wald, Sargan, and Hausman scores for both 2SLS estimations are reported in the last three rows of Table 2.8. As can be seen at Table 2.8 the Wald scores are significant in all models, which indicate that the hypothesis that instruments are weak is rejected for all models. Regarding the sargan scores which tests over identification, the null hypothesis about over identification is rejected in some models at Panel A of Table 2.8.

This means that some instruments can be excluded. However, at Panel B of Table 2.8, the instruments are valid except model 4 and 7. The Hausman scores at Panel A of Table 2.8 suggest that the decision of acquisition is endogeneous and 2SLS estimations are more robust and should be used. However, we have mixed results in terms of Hausman scores at Panel B of Table 2.8.

### **Discussion**

CEOs are criticized for engaging in acquisitions that may not be beneficial to companies, in order to increase their compensation through empire building. Agency theory suggests that CEOs behave according to their interests at the expense of

**Table 2.8: Two-stage least squares estimation**

*Panel A: Impact of acquisition on CEO compensation*

This table reports the results of the following pooled OLS regression:  $CEO\ Compensation = a + b \times ACQ + c \times Controls + residual$  with 2SLS estimation. All firms with and without acquisition are used for this analysis. All dependent variables have been measured for 1-year after acquisition. We predicted the propensity of a company to engage in acquisition in the first stage and used predicted score in the second stage. The key variable of interest is ACQ, which is an indicator variable that has a value of one if the firm has an acquisition in the same year. Incentive-based compensation is the proportion of total CEO compensation that is variable. Intangibles and the IPO activity of the acquirer and CEO age are used as instruments. The statistics about the validity of instruments are reported at last three rows of the table. Heteroskedasticity-robust standard errors are used. Year and industry effects are fixed by using dummies.

The t-values associated with each coefficient are provided in parentheses. \*\*\*, \*\*, and \* represent statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Comp.	Growth in Total Comp.	Salary	Bonus	Incentive based Comp.	Options	Value of shares owned	Shares owned (Change)
ACQ	1.57*** (5.55)	0.79** (2.01)	0.07 -0.31	0.99*** (2.75)	0.36*** (4.31)	2.45*** (4.52)	1.87*** (3.25)	562.36*** (2.67)
ROA	0.34*** (2.84)	-0.48*** (-2.68)	0.43*** (4.66)	0.81*** (4.34)	-0.05 (-1.34)	0.05 (0.28)	1.99*** (7.14)	-79.50 (-0.82)
Tobin's Q	0.10*** (7.6)	0.07*** (3.92)	-0.034** (-2.55)	0.02** (2.07)	0.02*** (7.98)	0.24*** (15.39)	0.28*** (14.44)	41.00*** (3.03)
Size	0.38*** (26.73)	-0.03* (-1.65)	0.19*** (12.92)	0.37*** (19.89)	0.04*** (11.55)	0.40*** (14.49)	0.38*** (14.26)	6.43 (0.62)
Tenure	-0.005*** (-3.22)	-0.006*** (-3.18)	0.004*** (3.31)	0.007*** (3.33)	-0.005*** (-11.00)	0.005 (1.58)	0.11*** (32.93)	5.98*** (3.5)
Committee	-0.16*** (-3.28)	-0.05 (-0.78)	-0.14** (-2.43)	-0.09 (-1.64)	-0.04*** (-3.32)	-0.08 (-0.89)	0.54*** (5.61)	96.47** (1.98)
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	2.62*** (11.95)	-0.82*** (-2.71)	4.94*** (25.86)	2.07*** (7.69)	-0.44*** (-6.76)	0.06 -0.16	6.26*** (14.02)	-673.41** (-3.85)
Wald <sup>a</sup>	30.85***	30.36***	29.98***	19.84***	30.85***	16.45***	28.85***	28.05***
Sargan <sup>b</sup>	0.57	0.03	0.00	0.00	0.00	0.00	0.00	0.40
Hausman <sup>c</sup>	0.00***	0.07***	0.43***	0.00***	0.00***	0.00***	0.00***	0.01***
N	6831	6752	6854	4729	6831	3970	6582	6521
R2	0.28	0.02	0.19	0.33	0.13	0.16	0.30	0.04

a. Wald score tests the null hypothesis that instruments are weak (joint significance of all of the instruments)

b. Sargan score tests the null hypothesis that our instruments are valid and they are not overidentified (p-values are provided)

c. Hausman score tests the hypothesis that the endogenous variables are actually exogenous (p-values are provided)

**Table 2.8 – cont’: Two-stage least squares estimation***Panel B: Impact of IAs on CEO compensation compared to domestic acquisitions*

This table reports the results of the following pooled OLS regression:  $CEO\ Compensation = a + b \times IA + c \times Controls + residual$  with 2SLS estimation. All acquisitions are used for this analysis. Dependent variables have been measured for 1-year after acquisition. We predicted the propensity of a company to engage in acquisition in the first stage and used predicted score in the second stage. The key variable of interest is IA, which takes value of 1 if the acquisition is international and 0 if it is domestic. Incentive-based compensation is the proportion of CEO compensation that is variable. Intangibles, leverage, cash holdings and CEO age are used as instruments. The statistics about the validity of instruments are reported at last three rows of the table. Heteroskedasticity-robust standard errors are used. Year and industry effects are fixed by dummies. The t-values associated with each coefficient are provided in parentheses. \*\*\*, \*\*, and \* represent statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Comp.	Growth in Total Comp.	Salary	Bonus	Incentive based Comp.	Options	Value of shares owned	Shares owned (Change)
IA	-1.08** (-2.30)	1.54* (1.82)	-0.17 (-0.19)	-0.92* (-1.79)	-0.04 (-0.29)	-1.36** (-2.50)	-0.61 (-0.55)	-1396.5 (-1.13)
ROA	-0.10 (-0.18)	0.22 (0.3)	0.40 (0.77)	-0.53 (-1.18)	-0.003 (-0.01)	-1.07** (-2.36)	3.25** (-2.02)	182.83 (0.27)
Tobin's Q	0.14** (2.08)	0.06 (0.97)	-0.03 (-0.72)	0.02 (0.81)	0.02 (1.57)	0.38*** (9.14)	0.30*** (5.8)	19.52 (0.52)
Size	0.52*** (12.7)	-0.09 (-1.37)	0.261*** (2.77)	0.46*** (-11.17)	0.04*** (3.65)	0.63*** (10.13)	0.50*** (6.07)	149.15** (2.08)
Tenure	-0.007 (-0.91)	-0.007 (-0.57)	0.006 (0.7)	-0.02** (-2.00)	-0.003* (-1.65)	0.005 (0.37)	0.11*** (5.52)	16.33 (1.48)
Committee	-0.08 (-0.37)	-0.75** (-2.27)	-0.32 (-0.71)	-0.14 (-0.61)	-0.02 (-0.29)	0.12 (0.39)	0.71 (1.46)	503.88 (1.3)
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	4.34*** (9.08)	-1.48 (-1.56)	4.30*** (7.19)	3.88*** (7.48)	-0.068 (-0.44)	2.13*** (3.93)	7.58*** (7.96)	26.21 (0.03)
Wald <sup>a</sup>	3.08**	3.08**	3.18**	3.41***	3.08**	4.71***	3.08**	2.96**
Sargan <sup>b</sup>	0.91	0.92	0.44	0.06	0.18	0.41	0.06	0.27
Hausman <sup>c</sup>	0.04	0.03	0.69	0.13	0.92	0.02	0.70	0.29
N	528	521	530	405	528	362	506	499
R <sup>2</sup>	0.41	0.14	0.14	0.43	0.27	0.43	0.41	0.11

a. Walt score tests the null hypothesis that instruments are weak (joint significance of all of the instruments)

b. Sargan score tests the null hypothesis that our instruments are valid and they are not overidentified (p-values are provided)

c. Hausman score tests the hypothesis that the endogenous variables are actually exogenous (p-values are provided)

shareholders' interests. These arguments have been used to explain the high failure rates of acquisitions (Andrade, Mitchell, & Stafford, 2001; Moeller, et al., 2005). Increases in CEO compensation following acquisitions have been studied, and there is some empirical evidence that shows greater CEO compensation after acquisitions. On the other hand, some argue that in today's environment, with improved disclosure standards, there is more public pressure on CEOs, so that it is difficult to manipulate CEO compensation after an acquisition. In addition, stewardship theory, which has attracted interest in the management literature, argues that CEOs don't necessarily have interests that conflict with those of shareholders, and don't necessarily behave in their own interest at shareholders' expense. Moreover, CEOs' concern for their reputations and their increasingly incentive-based compensation packages led us to question the notion of opportunistic behavior on the part of CEOs with regard to acquisitions. In this study, we attempted to assess agency view's prediction about the impact of acquisitions on CEO compensation. Our findings indicate that acquisitions lead to higher CEO compensation, which is consistent with the agency view. More interestingly, we show that acquisitions affect the structure of CEO compensation, moving it toward a more incentive-based arrangement. We contribute to the literature by ascertaining that despite the stewardship view, greater public information and use of incentives in CEO compensation, agency view accurately predicts the relation between acquisition and CEO compensation. This implies that there are still agency problems within firms and that CEO behavior should be examined in light of these. It also raises concerns about stewardship theory, which argues that the interests of CEOs and shareholders are aligned. Subscribers to stewardship theory

should be more cautious about CEO behavior and should not assume that there are no agency problems.

Previous research commonly has examined the impact of domestic acquisitions on CEO compensation, and IAs have remained largely unexplored in this regard. We are aware of only two studies that compare the two types of acquisitions (Ozkan, 2012; Guest, 2009). These studies raise questions regarding their samples, as they use a small number of acquisitions and only in the United Kingdom. In addition, Guest (2009) uses only cash compensation, which is a small component of total compensation. We shed light on this important issue with a more comprehensive sample and recent data. We find support for the argument that the impact of international and domestic acquisitions is not the same. However, the direction of this difference ran contrary to our expectation; our results reveal that domestic acquisitions lead to higher increases than IAs. One explanation for this finding is the more negative market reaction to IAs than to domestic acquisitions. IAs can have a negative effect on CEO compensation at firms where CEO compensation is linked to the firm performance. Anti-competitive effects can also lead to greater CEO compensation after domestic acquisitions due to increased CEO power. Another reason for this finding can be the effective monitoring of foreign institutional owners in IAs. Foreign institutional investors provide better monitoring than domestic institutional investors Gillan and Starks (2003). This is mainly due to the fact that foreign institutional investors have fewer ties to firms and they are free from the influence of management. Foreign institutional investors are more likely to invest in larger and more internationalized firms (Ferreira & Matos, 2008). As can be in descriptive statistics at previous sections, companies with IAs have greater firm size and they are more

internationalized compared to firms with domestic acquisitions. Hence, companies that engage in IAs have more foreign institutional investors, which lead to better monitoring of CEOs compared to firms with domestic acquisitions. This can be an explanation of lower CEO compensation in IAs than domestic acquisitions. Consistent with this, Ozkan (2012) found that foreign institutional shareholders have a negative impact on CEO compensation following an acquisition while domestic institutional shareholders do not have a significant impact. We believe that these results provide fresh insights in terms of the impact of different types of acquisitions. Finally, we investigate the role of relatedness and deal size on CEO compensation. Consistent with our predictions, our evidence suggests that unrelated acquisitions lead to higher compensation than related acquisitions. This is an indicator of opportunistic behavior on the part of CEOs in regard to empire building. We could find no evidence for the impact of deal size on CEO compensation. In sum, this paper stands at the confluence of at least two distinct bodies of literature: that on acquisition and that on CEO compensation. We have identified some salient, under-researched areas of CEO compensation and have offered some useful findings. We also make a strong empirical contribution to the study of the impact of acquisitions on CEO compensation.

This study has important implications for boards of directors and shareholders. These two parties who monitor CEOs should create mechanisms to align the interests of CEOs with those of shareholders, especially in terms of acquisition decisions, as we found evidence of agency problems between shareholders and CEOs. We also found an increase in incentive-based compensation following acquisitions, which could partially address that issue. Bonus payments following acquisitions can be contingent on the performance

of the acquisitions. CEO pay should also include more incentives that will align the interests of CEOs and shareholders, to prevent CEOs from engaging in value-destroying acquisitions. Moreover, as there are greater increases in CEO compensation after domestic acquisitions than after IAs, domestic acquisitions should be monitored more effectively.

While this research presents a useful examination, it also has limitations. Data inaccessibility limited our control variables for board characteristics and CEO power. Using these variables would have given us stronger results. We also included only public companies, as Execucomp does not contain data for private companies. Generalization of the results to private companies suggests an empirical question for future research.

While recognizing inherent limitations, we have opened new avenues of research. We have noted variability in the impacts of acquisitions on CEO compensation. It would be interesting to look at the reasons for this variability more closely. Is it the performance of an acquisition that determines the increase in CEO compensation, or are there other factors? The causes of higher increases following domestic acquisitions compared to IAs are also worth examining further. The effectiveness of board monitoring and CEO power are also important in regard to acquisition behavior. This is also an area that needs further investigation. Further studies may examine different moderators related to firm-level governance, in terms of its impact on post-acquisition compensation. Pre-acquisition CEO compensation is another aspect that can be examined, in terms of how it affects acquisition behavior and the performance of domestic and international acquisitions.

## **CHAPTER 3**

### **WHAT DO WE KNOW ABOUT ACQUISITIONS? A REVIEW AND DIRECTIONS FOR FUTURE RESEARCH**

#### **Abstract**

Acquisitions have been widely used by companies, and have received much attention from scholars in the fields of management, finance, and economics. Their increasing use by practitioners and increasing number of studies about acquisitions show that they are still a phenomenon that has potential for research. However, we do not have a clear understanding about the outcomes of acquisitions and the failure rates have still remained high. In this study, we provide an in-depth literature review of acquisition research in terms of the antecedents, outcomes, and success factors. We also focus on a review of work on international acquisitions, compare them with domestic acquisitions and discuss them as a mode of entry. More important, we identify theoretical and methodological gaps, questions that need to be answered, trends, and understudied areas in acquisition research. Finally, we provide recommendations and directions for future acquisition research that will enable us to gain a better understanding of acquisitions.

#### **Introduction**

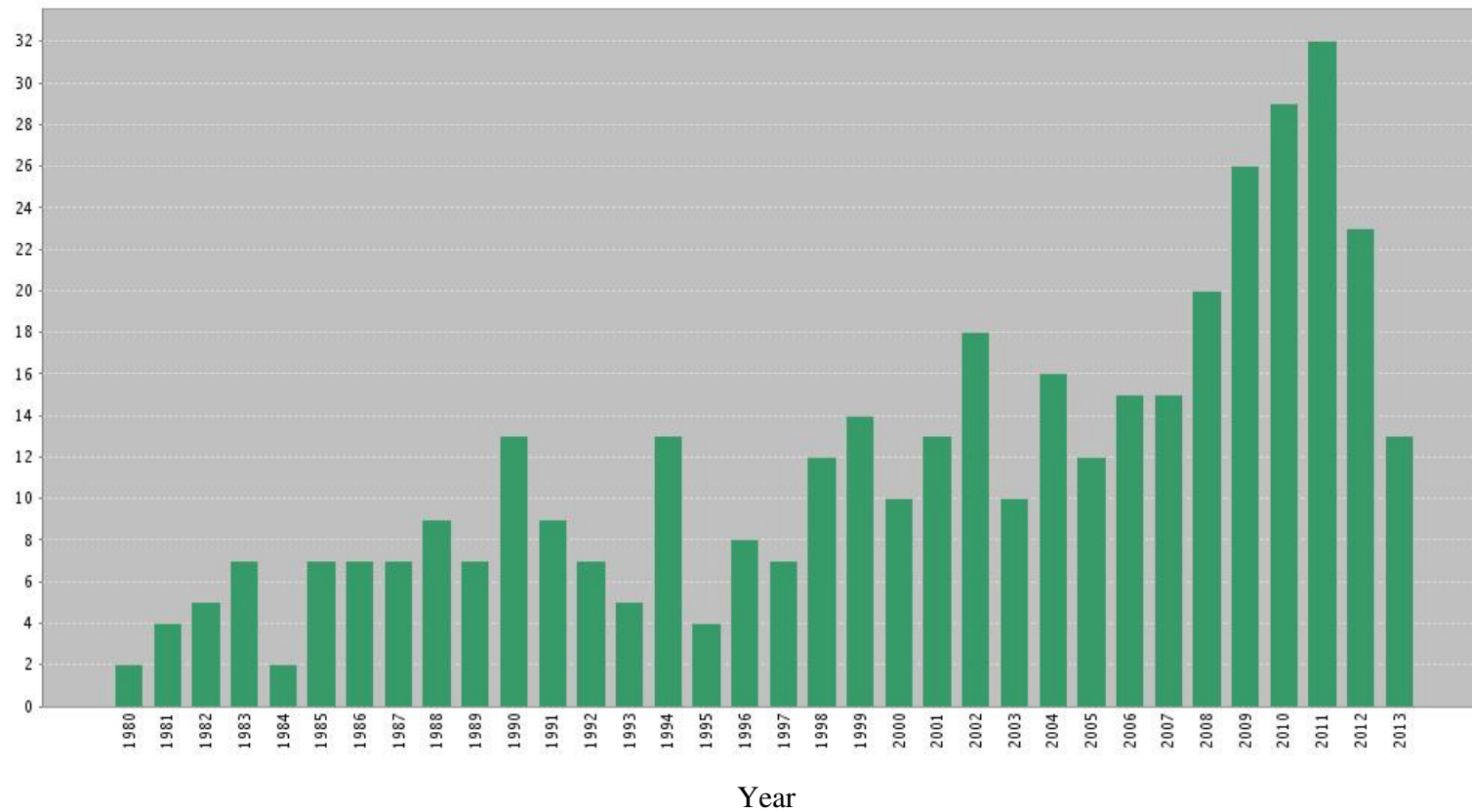
Mergers and acquisitions (hereafter referred to simply as acquisitions) have been widely used by companies. Thousands of companies engage in acquisitions and spend billions of dollars each year. The number of acquisitions and their value peaked in 2007 (UNCTAD, 2008). In that year, there were more than 45,000 transactions, with a total value of almost 5.5 trillion US dollars. The total money spent on acquisitions is larger than the GDPs of most countries. As a result of globalization and more liberal policies,

we see more international acquisitions, which constitute a significant portion of all FDI activity around the world. IAs are one of the main vehicles for the internationalization of multinational companies. Although Greenfield investment still accounts for more than half of all FDI flow, the number and value of IAs have been increasing faster than Greenfield investment (UNCTAD, 2012).

A large body of literature on the topic of acquisitions has developed in the fields of finance, management, economics, and accounting, which reflects the multidisciplinary nature of acquisitions. Paradoxically, in light of their popularity, acquisitions are found to provide at best a mixed performance for acquirers (Cartwright & Schoenberg, 2006). Despite the huge number of studies in this field, the failure rates seem to be the same, and the real impacts of acquisitions and the underlying success factors remain poorly understood (Rotting, 2009). Moreover, the question of why companies continue to use them, given the high failure rates, has still not been fully answered. Recent reviews about acquisitions (e.g., Halebian, et al., 2009; Cartwright & Schoenberg, 2006; Shimizu, Hitt, Vaidyanath, & Pisano, 2004) suggest that the findings about acquisitions in terms of outcomes, motivations, and success factors are inconclusive, and that acquisition research is incomplete. This might explain the increasing number of studies published in acquisition research, as can be seen in Figure 3.1. Therefore, acquisition research needs new directions to explore unanswered questions and inconclusive issues. Our aim in this essay is to review the current state of literature on acquisitions and identify understudied areas, theoretical and empirical gaps, and inconsistencies in findings. Building on this review, we will outline new directions for future acquisition research.

Our study contributes to the literature in several ways. First of all, there has been an increase in studies about acquisitions (see Figure 3.1) and there are new findings that can change the dynamics of this stream of literature. This review includes the most recent studies in acquisition research and provides new insights in the field. Another major contribution of this study is to answer the most commonly asked questions in acquisition research that still have not been fully addressed: Why do acquisitions fail on average? What are the motivations of companies in continuing to use them? What are the main reasons for the successes and failures of acquisitions? We discuss these issues from theoretical perspectives that have been used mainly in management and finance literatures. Although our review covers all types of acquisitions, we give more emphasis to international acquisitions. Unlike earlier reviews, it addresses differences between international and domestic acquisitions. We also discuss methodological issues that can help to answer the questions just mentioned, which has not been done in previous reviews. We believe that this will point to new directions and fresh insights that will benefit scholars in acquisition research.

The rest of the paper proceeds as follows. In the next section, we provide an in-depth review of acquisition research. The topics include the antecedents, outcomes, and success factors of acquisitions, in addition to comparisons of international with domestic acquisitions, IAs as an entry mode. Next, we identify gaps in the acquisition research and provide future directions. In the last section, we conclude the review.



**Figure 3.1: Number of studies about acquisitions published in top-tier journals between 1980 and 2013**

## **The Literature on Acquisitions**

Acquisitions have received much attention in the literature, and there have been many reviews concerning them. In one study, Shimizu et al. (2004) reviewed international acquisitions as a mode of entry, a dynamic learning process, and a value-creating strategy. Cartwright and Schoenberg (2006), based on the literature, discussed the reasons for the high failure rate of acquisitions. Some reviews specialize on particular aspects of acquisitions. For instance, Rottig (2009) examined international acquisitions from the perspective of the management field. Haleblian et al. (2009) developed a framework for examining studies about acquisitions in terms of antecedents, moderators, and outcomes. In another review study, Shi, Sun and Prescott (2011) combined the bodies of literature on alliance and acquisition and assessed them together. In his review of acquisitions, Vazirani (2012) assessed the performance outcomes of acquisitions from the human resource perspective. The most recent review study in the field of acquisitions proposes linking existing approaches within acquisitions in order to acquire a better understanding of them (Gomes, Angwin, Weber, & Tarba 2013). In this study, we build on Haleblian et al.'s (2009) framework for reviewing acquisitions. We first discuss the antecedents of acquisitions in order to understand the motivations of companies for engaging in acquisitions, and the factors that drive them. Then we review the outcomes of acquisitions, discussing the factors that lead to their success or failure. All of these topics apply to all acquisitions, but we examine IAs separately as well, as they have different characteristics from domestic acquisitions. Unlike previous reviews, we assess the differences between international and domestic acquisitions. We also discuss studies that treat international acquisitions as a mode of entry.

### *The Antecedents of Acquisitions*

As indicated earlier, companies extensively use acquisitions with different motivations (Walter & Barney, 1990; Zollo & Meier, 2008). In this section, we discuss the motivations of companies for engaging in acquisitions, in order to understand what drives acquisition behavior. A summary of studies about antecedents of acquisitions can be found in Table 3.1.

#### *Acquiring Resources and Capabilities*

One of the most important motivations for engaging in an acquisition is to obtain valuable resources, especially the intellectual assets of the target firm (Bartlett & Ghoshal, 1988). Acquirers are mostly interested in acquiring technology-related resources. Companies that need to improve their innovativeness use acquisitions to obtain the valuable know-how and other technological capabilities of the target firm. Boateng, Qian, and Tianle (2008) empirically demonstrated that obtaining foreign advanced technology is one of the main motivations behind international acquisitions. It has been found that companies that engage in acquisitions are less innovative and have declines in technological innovation (Zhao, 2009), while target firms have relatively high R&D intensity and larger patent stock (Desyllas & Hughes, 2009). This suggests that firms aim to enhance their innovativeness by acquiring targets with technological resources and capabilities. After an acquisition, acquiring firms leverage the innovative resources of the target firm either by integrating them with existing resources or by leveraging them as an independent unit (Puranam & Srikanth, 2007).

Technology-related resources are not the only resources that motivate firms to acquire. Uhlenbruck, Hitt, and Semadeni (2006) showed that as a result of acquisitions,

offline firms obtain scarce resources held by Internet firms. Capabilities that are difficult to develop internally also motivate firms to engage in acquisitions to obtain them. For instance, learning and network factors have been proposed as important motivations for acquisitions (Lin, Peng, Yang & Sun, 2009).

### *Creating Synergies*

Companies engage in acquisitions with the expectation of creating synergies (Walter & Barney, 1990), especially at the operational and financial levels (Raj & Uddin, 2013). Operational synergies can be created as a result of economies of scale, economies of scope or increased market power, due to the larger size of a combined firm (Gupta & Gerchak, 2002). Intellectual assets that are developed through time with a lot of investment can also be better utilized via acquisitions (Cummins & Xie, 2008). The redeployment of resources is another way that acquirers can create synergies, and Karim and Mitchell (2000) showed that acquirers are more successful than non-acquirers in that sense. Acquisitions lead to operational improvements via the removal of duplications of resources and the better utilization of resources (Maharaj & Reddy, 2013). Huyghebaert and Luypaert (2013) quantified operational synergies and demonstrated that the benchmark-adjusted ratio of operating costs to sales declines 1.53% after acquisitions.

Another view that has been used to explain acquisition activity is financial synergy theory, which posits that companies engage in acquisitions to increase their ability to generate more financial resources. Target firms are usually smaller, and they may not have enough funds to invest in good opportunities. Acquisitions increase the financial capability of both the acquiring and the target firm and enable them to invest in high potential projects. First of all, target firms can use the internal resources of the

acquirer. Combined firms also increase the debt capacity of companies and provide them with more financial resources (Raj & Uddin, 2013). Moreover, the increased size of the acquirer can improve the firms' ability to access capital, which lowers the cost of capital.

### *Market Power*

Increasing market power is another driver of acquisitions. The market power hypothesis posits that related acquisitions lead to fewer firms in an industry, which in turn increases the pricing power of firms. Increasing market power due to acquisitions can also help companies to lower their supply costs, as it provides more bargaining power to acquirers. Firms can increase their power via diversification as well (Doukas & Kan, 2008), which has been proposed as a motivation for unrelated acquisitions (Boateng, et al., 2008). As a result of diversification after acquisitions, firms can use resources from the acquired business when the main line of business becomes stagnant. This gives power to acquiring firms relative to incumbent firms that are not diversified. Bhattacharyya and Nain (2011) provided empirical evidence showing a positive impact of horizontal mergers on the buying power of acquirers.

### *Valuation Effects*

Valuation effects influence the acquisition decisions of firms. These effects can also be thought of in terms of timing. Firms engage in acquisitions at the optimal time, when the target is undervalued or the acquirer is overvalued. The valuation driver of an acquisition can be the result of market valuation or exchange rates. If the acquirer's stock is overvalued, an acquisition can create value for shareholders, especially if the stock of the target is undervalued. The valuation effect can come from the overall performance of a stock market as well. Companies that are located in countries whose stock markets have

increased in value tend to engage more in IAs (Erel, Liao, & Weisbach, 2012). However, acquisitions that are initiated with this motivation are not necessarily successful. Fu et al. (2013) showed that overvalued acquirers significantly overpay for targets, especially in acquiring firms with governance problems. As a result of overpayment, these kinds of acquisitions do not create value.

Another view that has been used mainly in the finance literature to explain IAs is financial theory, which argues that companies take advantage of changes in exchange rates when making IAs. When the currency of the country where the acquirer is located appreciates, targets in foreign countries become cheaper, and acquirers take advantage of undervalued targets. Uddin and Boateng (2011) found that exchange rates have a significant impact on IAs undertaken by UK companies. Georgopoulos (2008) provided similar empirical evidence for US acquisitions in Canada. Erel et al. (2012) also showed that there are more acquisitions by firms whose country's currency has appreciated. In sum, companies take exchange rate fluctuations into consideration in their acquisition decisions. The recent wave of acquisitions of European companies after the euro crisis is an example of that.

#### *The Market Discipline Approach (Corporate Control Theory)*

Another stream of research in finance suggests that acquisitions are used as a control mechanism for unsuccessful managers, which is called the market discipline view or corporate control theory (Jensen, 1988; Shleifer & Vishny, 1988; Manne, 1965). This view suggests that the managers of target firms may not perform well, due to conflicting interests with shareholders or a lack of necessary skills and knowledge (Cummins & Xie, 2008). The managers of acquiring firms believe that they can improve the performance of

a target firm by replacing its inefficient management, which motivates them to engage in an acquisition (Sirower, 1997). Acquisitions that are initiated with this motivation are expected to create more value, as there will be managerial synergies arising from the better skills and capabilities of the acquirer's management (Raj & Uddin, 2013). Consistent with this view, it has been found that the managers of a target firm are usually replaced after an acquisition (Agrawal & Walkling, 1994).

#### *CEOs Interests and Overconfidence*

The agency view, which argues that the CEOs may not behave according to shareholders' interests, has been used to explain the acquisition behavior of firms (Jensen, 1986; Shleifer & Vishny, 1989). According to this view, managers engage in acquisitions for their own interests, which are not necessarily beneficial for the company. Increasing his or her compensation is one of the motivations for a CEO to undertake an acquisition, and it has been found that companies with higher CEO compensation, which can be associated with greater agency problems, have more likelihood of engaging in acquisitions (Agrawal & Walkling, 1994). Managers can also use acquisitions to make their replacement more difficult. If the target firm requires specific knowledge on the part of the manager, it will be more difficult for him or her to be replaced, and this can be a motivation for acquisitions as well (Cummins & Xie, 2008).

Managerial hubris and overconfidence are also proposed as antecedents of acquisitions (Roll, 1986). This view proposes that the managers, although they may have the goal of maximizing shareholder value, can overestimate their ability to manage a target firm. Ferris, Jayaraman, and Sabherwal (2013) also demonstrated that CEO overconfidence leads to a higher frequency of acquisitions. Like hubris and

overconfidence, other CEO characteristics, like age and gender, can affect the likelihood of an acquisition. For instance, Levi, Li and Zhang (2010) found that young male CEOs have a greater tendency to engage in acquisitions.

Both agency problems and CEOs' behavior as a result of hubris or overconfidence are related to the quality of governance in a firm, which is affected by ownership structure. Therefore, ownership structure has been examined in terms of how it affects acquisition behavior. For instance, the propensity to make diversifying acquisitions is found to increase with the level of family ownership (Miller, Le Breton-Miller & Lester, 2010). On the other hand, Caprio, Croci, and DelGiudice (2011) found that family firms are less likely to make acquisitions in general. Huyghebaert and Luypaert (2010) also provided evidence about the impact of ownership structure on the likelihood of an acquisition and found that a high concentration of ownership leads to fewer acquisitions.

#### *Environmental Factors*

Some environmental factors can motivate or force companies to engage in acquisitions. According to industry shock theory, acquisition behavior might not be necessarily firm-specific; changes in industry structure can motivate companies to engage in an acquisition (Cummins & Xie, 2008). Acquisitions can also be motivated by industry-level regime shifts (Gorton, et al., 2009). This view suggests that a company might engage in an acquisition in order to avoid being acquired (defensive acquisitions) or to become a more attractive target (positioning acquisitions). Both of these motivations are triggered when there is consolidation through acquisitions in an industry. Xiaoli and Shanley (2008) examined industry characteristics and found that the decision to acquire is affected by pressures to improve flexibility, industry concentration, institutional settings,

etc. Similarly, Almazan, De Motta, Titman, and Uysal (2010) found that firms located within industry clusters make more acquisitions.

#### *Firm-Level Antecedents*

Lastly, we will discuss various firm-level variables that affect the propensity to engage in acquisitions. One of the most studied factors about acquisition behavior is acquisition experience, which has been found to positively influence the likelihood of an acquisition (Nadolska & Barkema, 2007; Peng & Fang, 2010). Like acquisition experience, focal acquisition performance positively affects the propensity to engage in an acquisition (Haleblian et al., 2006).

The resources of firms also affect acquisition behavior. IPOs, which directly affect the financial resources of a firm, have a triggering effect on acquisitions (Arikan & McGahan, 2010). Celikyurt et al. (2010) showed that over 30% of companies conducting an IPO make at least one acquisition in their IPO year, and the typical IPO firm makes about four acquisitions during its first five years as a public company. Iyer and Miller (2008) gathered evidence about the impact of financial resources on acquisitions and showed that financial distress inhibits acquisitions. Similarly, Uysal (2011) showed that firms are less likely to make acquisitions when they are overleveraged. Huyghebaert and Luypaert (2010) examined other type of resources and showed that intangible assets positively affect the acquisition decision.

**Table 3.1: Summary of empirical research on antecedents of acquisitions**

<b>Key Finding</b>	<b>Study</b>	<b>Sample</b>
Obtain technology	Boateng, Qian, & Tianle (2008)	27 Chinese IAs (2000-2004)
Enhance technological innovation	Zhao (2009)	988 U.S. acquisitions (1984-1997)
Transfer of scarce resources	Uhlenbruck, Hitt, & Semadeni (2006)	798 acquisitions of Internet firms (1995-2001)
Learning and Network factors	Lin, Peng, Yang & Sun (2009)	155 acquisitions and 382 alliance in US and China (2001-2005)
Diversification	Cummins & Xie (2008)	588 transactions in US property-liability insurance industry(1994–2003)
Business reconfiguration	Karim & Mitchell (2000)	2628 firms (437 acquisitions) in the U.S. medical sector (1978-1995)
Value of stock market	Erel, Liao, & Weisbach (2012)	56,978 international acquisitions (1990-2007)
Exchange rates	Uddin & Boateng (2011)	International acquisitions in U.K. (1987–2006)
Internalization of resources	Gubbi, Aulakh, Ray, Sarkar, & Chittoor (2010)	425 international acquisitions by Indian firms (2000-2007)
Market discipline for managers	Agrawal & Walkling (1994)	182 target firms in U.S. (1980-1986)
CEO compensation practices	Harford & Li (2007)	370 acquisitions in U.S. (1993-2000)
Managerial hubris / overconfidence	Malmendier & Tate (2008)	394 large public U.S. firms (1980-1994)
CEO gender and age	Levi, Li, & Zhang (2010)	357 M&A announcements (1997–2007)
Abnormal CEO compensation	Agrawal & Walkling (1994)	182 target firms in U.S. (1980-1986)
Ownership structure	Huyghebaert & Luypaert (2010)	990 M&As in Belgium (1997–2007)
Industry characteristics	Gorton, Kahl, & Rosen (2009)	1988 acquisitions in U.S. (1981-1999)
Acquisition experience	Nadolska & Barkema, 2007	1038 international acquisitions in Netherlands
Capital structure	Uysal (2011)	52,642 firm-years (7,814acquisitions) in U.S. (1990-2007)
Financial resources (IPO)	Celikyurt, Sevilir, & Shivdasani (2010)	1,295 IPOs and 3,747 acquisitions (1985-2004)
Faster entry to new markets	Boateng, Qian, & Tianle (2008)	27 Chinese IAs (2000-2004)

### ***What Affects the Success and Failure of Acquisitions?***

The outcomes of acquisitions in terms of success or failures have captured the attention of scholars. The measures that are used to assess acquisition outcomes vary along several dimensions, such as subjective versus objective and short-term versus long-term, which can be seen in Table 3.2. However, there is little or no agreement on how to measure acquisition performance (Zollo & Meier, 2008). Studies in the finance literature usually examine post-acquisition performance in terms of value creation for shareholders and use stock returns for measurement. This stream of literature mostly considers short-term market reactions to acquisitions (e.g. Markides & Ittner, 1994). Accounting measures are another commonly used measure for assessing acquisition performance (e.g., Fraser and Zhang, 2009). Based on a review of performance evaluations of acquisitions, Vazirani (2012) suggests that the success or failure of an acquisition be evaluated by whether or not it achieves strategic objectives. Some other measures used to assess the success or failure of an acquisition are innovativeness (Cefis, 2010; Zhao, 2009), market share (Georgopoulos & Preusse, 2009), productivity (McGuckin & Nguyen, 1995), synergy realization (Huyghebaert & Luypaert, 2013), survival or divestiture (Pennings, et al., 1994), integration success (Larsson & Finkelstein, 1999), and long-term market return (Dutta & Jog, 2009).

Evidence regarding the effects of acquisitions as positive or negative comes to us from many different sources and perspectives. According to large body of literature, mainly in finance, acquisitions fall short of expectations. In their review of the literature, Agrawal and Jaffe (2000) showed that most of acquisitions destroy shareholder value or, at best, do not increase it. There is also recent empirical evidence about the value

**Table 3.2: Measured used for assessing acquisition performance**

<b>Measure</b>	<b>Study</b>	<b>Sample</b>
Short-term market return	Markides & Ittner (1994)	276 U.S. acquisitions (1975-1988)
Operating performance	Fraser & Zhang (2009)	83 U.S. bank acquisitions (1980–2001)
Innovation strategy	Cefis (2010)	4604 firm-level observations in Dutch manufacturing sector (1994–2002)
Market share	Georgopoulos & Preusse (2009)	124 Greenfields and 55 acquisitions in manufacturing subsidiaries MNCs located in Greece (2000–2003)
Sociocultural integration	Stahl & Voigt (2008)	46 studies with a combined sample size of 10,710 M&As
Productivity	McGuckin & Nguyen (1995)	28,294 plants in food manufacturing industry (1977–1987)
Synergy realization	Huyghebaert & Luypaert (2013)	293 M&As by non-serial listed acquirers in Europe (1997-2005)
Survival or divestiture	Pennings, Barkema & Douma (1994)	462 expansions of Dutch firms, both acquisitions and new ventures (1966-1988)
Innovativeness	Zhao (2009)	988 U.S. acquisitions (1984-1997)
The degree of organizational integration	Larsson & Finkelstein (1999)	61 merges and acquisitions in U.S.
Long-term stock return	Dutta & Jog (2009)	1300 M&A events in Canada (1993–2002)

destroying effect of acquisitions (Spyrou & Siougle, 2007; Billet and Qian, 2008; Ismail, 2008; King, et al., 2004). Different failure rates are given in the literature. For instance, Craninckx and Huyghebaert (2011) show that acquisition failure rates amount to 50%. The frequent appearance of failed acquisitions in the press also leads to the belief that acquisitions are failures. Some examples of acquisition failures are AOL/Time Warner, HP/Compaq, Alcatel/Lucent, and Daimler Benz/Chrysler.

There is no consensus about the impact of acquisitions; however, a number of studies have found a positive impact. Many of these studies found improvements in productivity following acquisitions (Siegel & Simons, 2010; McGuckin & Nguyen, 1995). Fraser and Zhang (2009) used financial measures and showed an improvement in cash flow profitability following IAs. In other studies that investigated market reactions to acquisitions, it has been shown that markets respond positively to acquisitions in some cases (Faccio et al., 2006; Fuller et al., 2002; Huyghebaert & Luypaert, 2013). On the whole, mixed evidence about the impact of acquisitions involves both successes and failures. In this section, we will discuss the factors that lead to success or failure in acquisitions.

#### *Complementarity between Acquirer and Target*

Acquisitions result in the merger of two companies, with the purpose of creating synergies; this can also be thought of as a marriage. The fit between acquirer and target is one of the most important factors for the success of an acquisition. One way to examine complementarity is by looking at the resources and capabilities of firms. Makri et al. (2010) found enhanced invention performance as a result of complementarity between the scientific and technological knowledge of acquirers and targets. Kim and Finkelstein

(2009) also provided evidence of the positive impact on acquisition performance of market complementarity between the acquirer and target in cases of horizontal acquisitions. Similarly, King et al. (2008) showed that complementarity between acquirer and target resources, in terms of technological and marketing resources, is associated with greater abnormal returns after acquisitions. The fit between organizational cultures is another dimension of complementarity; it has been found to positively affect post-acquisition knowledge transfer (Sarala & Vara, 2010; Vaara, Sarala, Stahl, & Bjorkman, 2012).

A large body of literature, mainly strategic fit literature, has examined this issue from the perspective of the relatedness between the acquirer and the target. Relatedness has been defined as the extent of similarity between the acquirer and the target (Jemison & Sitkin, 1986). The main question in this stream of literature has been whether similarity between the acquirer and the target leads to acquisition success. The positive view of relatedness asserts that distinctiveness between firms is necessary for creating knowledge and developing new products (Sorenson & Sorenson, 2001). Consistent with this view, Park, Glaister, and Oh (2009) found that relatedness positively affects technology acquisition. However, most of the studies in this literature view relatedness as detrimental to acquisition success. The main argument in this view is that acquirers limit themselves and lower their flexibility in related acquisitions (Harrison, Hitt, Hoskisson, & Ireland, 1991; Higgins and Rodriguez, 2006). Moreover, acquiring similar resources and capabilities results in redundancies (Zollo & Singh, 2004) and the duplication of resources (King, et al., 2008). On the other hand, the acquisition of unrelated targets

provides acquirers with new resources, capabilities, ways of doing business, etc., which enhance acquisition performance (Hitt, Hoskisson, Johnson, & Moesel, 1996).

### *Firm Characteristics*

Several firm-level variables affect the success of acquisitions. These variables have mainly been studied by the contingency literature, which focuses on pre-acquisition conditions. Firm size is one of the factors that have been examined. Although larger firms have more resources and capabilities that can be used for acquisitions, small acquirers tend to benefit more from acquisitions (Moeller, Schlingemann, & Stulz, 2004). This has been attributed mainly to lower agency problems, such as managerial hubris, in small companies. Another pre-acquisition factor that affects acquisition success is the resources of the acquirer. Suh et al. (2013) found that acquisitions undertaken by firms with greater innovative capabilities are more successful, as acquirers exploit and utilize these resources better after acquisitions.

The most commonly studied firm-level factor is acquisition experience. Based on organizational learning theory, it can be seen that firms learn from their mistakes; therefore, acquisition performance should increase with greater acquisition experience. However, empirical evidence regarding the impact of acquisition experience is mixed and inconclusive. Suh et al. (2013) found a positive effect of acquisition experience on the success of acquisitions, while Haleblan and Finkelstein (1999) found the impact to be U-shaped. In contrast to these studies, Ismail and Abdallah (2013) showed that acquisition experience has no significant effect on the outcomes of acquisitions. These mixed results can be attributed to the samples used, the types of acquisitions considered, and other contingencies. For instance, Aktas et al. (2013) posit that there are learning gains from

prior acquisitions under CEO continuity. The similarity of prior acquisitions has been found to moderate the impact of acquisition experience as well (e.g., Haleblan & Finkelstein, 1999; Hayward, 2002). The type of experience is another moderator. Ellis, Reeus, Lamont, and Ranft (2011) demonstrated that experience with making large domestic acquisitions enhances the performance of subsequent acquisitions, whereas experience with making small acquisitions has an opposite effect. Building on the concept of organizational forgetting, Meschi and Metais (2013) argue that experience depreciates, and they show that old acquisition experience does not affect acquisition performance.

#### *Agency Problems*

We identified agency problems as one of the drivers of acquisitions in the previous section. This view is based on agency theory, which posits that there is a conflict of interest between shareholders and managers. Acquisitions that are initiated with this motivation lead to failure. Several studies have provided support for this view (e.g., Masulis, et al., 2009; Masulis, et al., 2007). There is significant evidence demonstrating an increase in CEO compensation following an acquisition (Yim, 2013; Harford & Li, 2007; Grinstein & Hribar, 2004; Bliss & Rosen, 2001). In addition to increasing compensation, CEOs use acquisitions to build business empires, increase their power, and reduce employment risk (Gomez-Mejia & Wiseman, 1997; Haleblan & Finkelstein, 1993; Hambrick & Finkelstein, 1987). As a result of increasing power, entrenched managers choose low-synergy targets and overpay, which leads to failures in acquisitions as well (Harford, Humphery-Jenner & Powell, 2012). Lin, Officer, and Zou (2011) examined the effect of moral hazard on acquisitions, which is another dimension of

agency problems. They showed that when executives have director's or officer's liability insurance, there is a higher risk of moral hazard, which in turn leads to lower announcement returns following acquisitions. There might be agency problems between other stakeholders as well. For instance, companies with creditor-directors have a higher tendency to engage in value-destroying acquisitions for shareholders (Hilscher & Sisl-Ciarrara, 2013), due to conflicting interests between creditors and shareholders. These findings demonstrate that agency problems can lead to failures in acquisitions.

### *Governance*

As discussed in the previous section, agency problems are perceived as one of the main causes of failure in acquisitions. The existence of agency problems is related to the quality of governance within the firm. Firms with weaker governance have greater agency problems, and acquisitions by these firms have higher likelihood of failure. Fu et al. (2013) found greater increases in CEO compensation following acquisitions in firms with weak governance, which provides support for the link between agency problems and governance. The effectiveness of monitoring is an important dimension of firm governance. Companies engage in more acquisitions during merger waves, which are accompanied by reduced monitoring. This, in turn, leads to inefficient acquisitions (Duchin & Schmidt, 2013). Similarly, Walters, Kroll, and Wright (2008) showed that effective monitoring results in more successful acquisitions. In another study about the role of monitoring, Ahn et al. (2010) found that acquirers experience more negative returns when directors hold more outside board seats. They interpreted this finding to mean that directors are unable to do effective monitoring when they have outside board assignments. In the same vein, McDonald, Westphal, and Graebner (2008) showed that

directors' prior experience positively affected acquisition success, especially when the firm's board was independent from management. An alignment of interests between shareholders and CEOs lowers agency problems and leads to successful acquisitions. One way to align the interests of these two parties is through managerial ownership. Hubbard and Palia (1995) argued that CEOs interests are more aligned with those of shareholders under a moderate level of managerial ownership, where they found better acquisition performance.

#### *Managerial Hubris & Overconfidence*

As indicated earlier, the market disciplining of poor target managers is one of the antecedents of acquisitions. Acquirer managers think that they can manage the target better and improve performance. However, CEOs can overestimate their ability to manage target companies, and this overconfidence causes them to engage in value-destroying acquisitions (Roll, 1986). One of the outcomes of managerial hubris is high premiums (Hayward & Hambrick, 1997). Several studies provide evidence about the negative impact of CEO overconfidence on acquisition success (Malmendier & Tate, 2008; Hayward & Hambrick, 1997). Hubris behavior is more explicit, especially after successful acquisitions (Ismail, 2008).

#### *Information Asymmetry*

Information asymmetry has been viewed as a major problem in acquisitions and a reason for failure. The basic notion behind this view is that the target firm possesses superior information about its own value, which makes it difficult for the acquirer to value the target (Akerlof, 1970). Thus, information asymmetry can lead to unsuccessful acquisitions (Gilson & Black, 1995). Some acquirers use contingent payments, based on

the performance of targets, to alleviate the information asymmetry problem (Ragozzino & Reuer, 2009). Scholars have used different proxies for information asymmetry to assess how it affects acquisition success. For instance, Chang and Tsai (2013) examined the acquisition of prior partners and found that these acquisitions perform better. Similarly, Zaheer, Hernandez, and Banerjee (2010) showed that IAs following alliances were more successful than other acquisitions. Both studies demonstrated that information asymmetry is a major cause of failure in acquisitions, and that any relationship with the target that mitigates information asymmetry has a positive effect on acquisition success.

### *Integration Issues*

Post-acquisition integration has been viewed as a challenge for acquisitions. Integration has been examined from the perspective of the fit between the organizational cultures of the acquirer and the target, namely, the similarity of cultural practices, administrative procedures, and personal characteristics between two firms (Jemison & Sitkin, 1986). This stream of literature known as the process perspective views integration as a determinant of success or failure in acquisitions (Haspeslagh & Jemison, 1991; Kitching, 1967). According to this view, a lack of organizational fit leads to a culture clash between the acquirer and the target (Cartwright & Cooper, 1990). The underlying assumption of this view is that the emotional and behavioral responses of employees might be negative due to culture shock if the organizational cultures are too different (Buono, et al., 1985). This is also a result of managers' focusing too much on financial measures and not paying enough attention to organizational culture and the human side of the acquisition. In order to prevent these negative effects, the acquirer and

the target should develop trust and mutual understanding (Schweiger & DeNisi, 1991), and sufficient attention should be given to cultural due diligence before an acquisition.

The negative effect of culture shock on target employees has been challenged by a recent study. Teerikangas (2012) showed that target employee reactions to acquisitions tended toward motivation rather than uncertainty, as acquisitions were viewed as sources of opportunity rather than as a threat to target employees. They result in the involvement of target managers in the integration process and greater acquisition success. This is consistent with the view that the management talent in the target firm should be preserved in order for acquisition to be successful (Cannella & Hambrick, 1993). It has been proposed that key people in the target firm should be retained by effective communication and incentives (Kummer, 2008). Another way to prevent problems due to integration is to keep the target as an autonomous subsidiary. However, Zaheer, Castaner, and Souder (2013) propose that integration and autonomy are not substitutes. They show that integration and autonomy should complement each other in order to create synergies when there are complementarities.

In sum, there are both successes and failures in acquisitions, due to the numerous factors that we discussed (see Table 3.3). However, it is still unclear which of these factors have the greatest impact on acquisition performance. In addition, it is puzzling to see high failure rates in acquisitions despite the several variables that have been identified as success factors. This suggests that there is a need to identify new success factors for a better understanding of acquisitions.

**Table 3.3: Summary of empirical research on success factors of acquisitions**

<b>Success Factor</b>	<b>Effect</b>	<b>Study</b>	<b>Sample</b>
Complementarity	Positive	Makri, Hitt, & Lane (2010)	95 M&As from the drug, chemical, and electronics industries (1996)
Fit in organizational cultures	Positive	Vaara, Sarala, Stahl, & Bjorkman (2012)	123 related international acquisitions conducted by Finnish firms
Business relatedness	Positive	Park, Glaister, & Oh (2009)	119 South Korean international acquisitions (2007)
Business relatedness	Negative	Harrison, Hitt, Hoskisson, & Ireland (1991)	1100 acquisitions in the U.S. (1970-1989)
Target management turnover	Negative	Cannella & Hambrick (1993)	96 acquisitions in U.S. (1980-1984)
Communication with target employees	Positive	Schweiger & DeNisi (1991)	147 employees in two acquired firms in the US
Firm size	Negative	Moeller, Schlingemann, & Stulz (2004)	12,023 acquisitions by public firms (1980-2001)
Innovative capabilities of acquirer	Positive	Suh, You, & Kim (2013)	220 international acquisitions by European firms (1993-2007)
Acquisition experience	U-shaped	Haleblian & Finkelstein (1999)	449 large acquisitions by manufacturing firms (1980-1992)
Managerial ownership (moderate)	Positive	Hubbard & Palia (1995)	354 mergers in U.S. (1985-1991)
Agency problems	Negative	Masulis, Wang, & Xie (2009)	The universe of U.S. public firms (1994–2002)
CEO hubris	Negative	Hayward and Hambrick (1997)	106 large acquisitions by public firms (1989-1992)
Information Asymmetry	Negative	Zaheer, Hernandez, and Banerjee (2010)	408 high-technology acquisitions by U.S. firms (1990-1998)
Effective board of directors	Positive	Walters, Kroll, & Wright (2008)	342 acquisitions in the U.S. (1997-2001)

### *How do International Acquisitions Differ from Domestic Acquisitions?*

Most of the prior literature about acquisition research focuses on domestic acquisitions; relatively few studies examine IAs, and even fewer studies compare them with domestic acquisitions (e.g., Bertrand & Zitouna, 2008). However, most of the acquisition activity in the world is occurring between different countries. Although there are many similarities between international and domestic acquisitions, they cannot be treated the same. Country-based differences add additional complexity and challenges for IAs, and they should be taken into account when examining IAs, in addition to firm-level variables (Hofstede, 1980; House et al., 2002). Therefore, it is important to make a distinction between the two types of acquisitions and discuss the differences between them. Very few studies make this distinction or examine the differences between international and domestic acquisitions (e.g., Anand, et al., 2005; Bertrand & Zitouna, 2008). Unlike the prior literature reviews, in this section, we will discuss the differences between international and domestic acquisitions.

#### *Country-Level Factors*

In addition to the firm-level variables that we discussed in the previous section, unlike domestic acquisitions, IAs involve country-level factors that affect their success. These factors have mainly been examined in the international business literature. The main issue in this literature is the compatibility of institutions between home and host countries. Cultural distance, which can be defined as a lack of cultural fit between countries, is one of the most-studied phenomena. In addition to differences between organizational cultures, cultural distance negatively affects the integration process (Schweiger & Very, 2001). The literature provides various reasons for this negative

effect. First of all, employees are less involved in the integration process and less cooperative when the cultural distance is great (Krug & Nigh, 2001). Cultural distance also impedes the transfer of key capabilities and constrains communication between the workforces of the acquirer and the target (Reus & Lamot, 2009). Lack of communication can lead to employee stress and negative attitudes during integration (Weber, Shenkar, & Raveh, 1996). All of these factors make integration process more difficult and lead to lower IA performance (Datta & Puia, 1995; Uhlenbruck, 2004). On the other hand, there is a view stating that cultural distance has a positive impact on the success of IAs. This argument is based on the resource-based view; it posits that cultural disparities provide unique and valuable capabilities to the acquirer and create a competitive advantage. This, in turn, enhances post-acquisition innovation and success. Some studies found empirical support for a positive impact of cultural distance on IA performance (Chakrabarti, et al., 2009; Morosini, et al., 1998). Their results suggest that differences between cultures are a source of synergies. If two parties are too similar, no synergy potential will be created. Cultural differences between the acquirer and the target are viewed as a potential for knowledge transfer (Sarala & Vaara, 2010), and have been found to positively affect knowledge transfer (Vaara, et al., 2012). Reus and Lamont (2009) combined two conflicting views and proposed that cultural distance has a double-edged effect on acquisition performance. They argued that acquirers can gain from cultural differences if they can overcome the detrimental effects of cultural distance on the recognition of key capabilities. Consistent with this argument, Dikova and Rao (2013) showed that acquirers with international acquisition experience can benefit from the cultural differences between countries. Like cultural distance, geographic distance influences the

communication and integration processes of acquisitions and has a negative impact on IA success (Kang & Kim, 2008).

Another aspect of institutions that affects IA success is laws and regulations. A country's legal origin represents the fundamental legal tradition of a country, which is the foundation and lens through which corporate law and securities law develop, and it defines the basic rights and protections of investors (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1998). Prior research documents that the common law legal tradition provides greater investor protection than does the civil law tradition because of its stronger orientation to private contracting and the protection of private property rights. Von Eije and Wiegerinck (2010) analyzed bidder market effects for the US and found that private acquisitions by civil law firms generate smaller bidder returns, while relatively large private acquisitions by common law firms generate large bidder returns. In another study, where investor protection was examined, John, Freund, Nguyen and Vasudevan (2010) found that acquirer returns decrease with the level of investor protection.

#### *Additional Costs of International Acquisitions Compared to Domestic Acquisitions*

Some of the negative aspects of acquisitions are more explicit in IAs than in domestic acquisitions, which affects their potential for success. One of these negative aspects is agency problems associated with acquisitions. According to agency theory, CEOs use acquisitions for their own interests at the expense of shareholders' interests. Because IAs are bigger and more complex than domestic acquisitions (Mukherji, et al., 2013), they create greater agency costs. IAs differ from domestic acquisitions due to the complexities of operating in a new environment as well, which makes them riskier. For instance, firms that engage in IAs are faced with unique risks such as the 'liability of

foreignness'' (Zaheer, 1995). As a result of this, a CEO might avoid risky but high potential IAs, which is not in the best interest of shareholders. Consistent with this argument, Matta and Beamish (2008) found that CEOs who have more options and more of an equity stake in the company have less of an incentive to engage in IAs, in order to protect their own wealth.

IAs also differ from domestic acquisitions in terms of post-acquisition integration problems (Child, Falkner, & Pitkethly, 2001). The integration of two companies is a very complex process and is difficult to manage. As the acquirer and target in an IA are from different environments, complexities and problems are greater than in domestic acquisitions (Mukherji, et al., 2013). After an IA, people from different cultures who speak different languages must work together, and their differences make it more difficult to manage the integration successfully. Work alienation between individuals from the acquirers and targets in IAs negatively affect technology and knowledge sharing (Brannen & Peterson, 2009). This prevents the acquirer from realizing the desired synergies from the IA. Geographic distance also negatively affects communications between the acquirer and target companies, which damages potential synergies (Kang & Kim, 2008). Differences between home and host countries also affect the control of an acquired company after an IA. For instance, accounting standards in the host country can prevent the acquirer from conducting effective monitoring. Personal behavioral differences due to national culture can impair the motivation of employees of the acquired company. Guerrero (2008) found increasing insecurity felt by employees after acquisitions. Being acquired by a foreign company can increase this insecurity more in an IA than in a domestic acquisition.

Information asymmetry is another area where IAs differ from domestic acquisitions. Information asymmetry between the acquirer and the target creates a risk of overpayment for the acquirer, in addition to excessive transaction costs during the due diligence and negotiation processes (Reuer, et al., 2004). Overpayment or overvaluation of the target leads to lower performance after an acquisition (Lin, Chou, & Cheng, 2011). IAs pose greater risks than domestic acquisitions in terms of information asymmetry. In an IA, there are more differences between two companies operating in different environments than in a domestic acquisition (Mukherji, et al., 2013). If the institutions are not well developed in the host country, the information asymmetry problem will be higher. The differences in accounting practices and disclosure requirements in the host country can prevent the acquirer from obtaining accurate information about the target. Information asymmetry regarding the intellectual assets of the target and the legal protection of these assets also creates uncertainty and risk about the returns generated after an IA. This uncertainty lowers the synergy potential of an IA and leads to lower returns (e.g., Moeller & Schlingemann, 2005).

IAs have different characteristics than domestic acquisitions in regard to their indirect effects. Sometimes devoting too much time and effort to the integration process may make top management unable to focus on other important decisions and may damage the overall performance of the company (Zollo & Meier, 2008). IAs are more complex than domestic acquisitions, and management needs to put more effort into the integration process. Foreign backlash by local stakeholders can also affect IAs negatively. For instance, a company may face informal sanctions by a local government after an IA if local competitors have power over the government. Restructuring the target companies

following an IA can create tension with the government and also result in a negative public image for the host country. These indirect negative effects are less of an issue for domestic companies, which operate in a more stable and certain environment.

#### *Advantages of International Acquisitions Compared to Domestic Acquisitions*

There are also some differences between international and domestic acquisitions that are favoring IAs. One of these differences is the geographic diversification benefit of an IA, which affects performance positively (Ramírez-Alesoñ & Espitia-Escuer, 2001). IAs also provide benefits in terms of location-specific advantages that are not available to domestic acquirers. IAs can be more beneficial than domestic acquisitions, as they allow acquirers to have access to the factor endowments in host countries, which in turn enhances productivity (Conyon, Girma, Thompson, & Wright, 2002). Bertrand and Zitouna (2008) found stronger efficiency gains for IAs than domestic acquisitions. IAs can also have benefits in terms of flexibility in dispersing production activities. Because the company has the option to locate production somewhere else, an IA gives it more bargaining power with employees. Lommerud, Straume, and Sogard (2006) showed that wages are lower after an IA than a domestic acquisition.

#### *International Acquisition as an Entry Mode*

International acquisitions represent a significant strategic choice for the internationalization of MNCs (Boeh, 2011). Due to technological developments and globalization, the number of IAs has been gradually increasing (UNCTAD, 2012). International business research has examined IAs as a mode of FDI or as an entry mode

preferable to other entry modes, such as Greenfield investment, joint ventures, etc., and has studied the performance implications of these options.

### *Transaction Costs*

The transaction cost economics (TCE) framework has traditionally been used to examine FDI and entry mode decisions. The transaction cost view emphasizes the differences between cultures, legal environments, and accounting standards that can increase transaction costs when making FDI (Markides & Ittner, 1994; Datta & Puia, 1995). The basic argument of this view is that firms should minimize inefficiencies and transaction costs in their entry mode decisions. The transaction costs of dealing with a foreign environment and the efficiencies of possible alternatives are key elements in the acquisition decision (Madhok, 1997; Robins, 1987). Dunning (1993) suggests that Greenfield ventures offer lower transaction costs, as a firm avoids the costs associated with integration in an IA. On the other hand, Hennart and Park (1993) argued that diversified firms prefer acquisitions because they have sophisticated management control systems, which can be exploited through IAs, thus providing organizational efficiency. The stage of internationalization affects transaction costs and, as a result, the acquisition decision. When the company is in the earlier stages of internationalization and new to the environment, there are more transaction costs. In these cases, an IA may be a good choice, because the company will not need to start up the business from scratch. Consistent with this argument, Shimizu et al. (2004) found that IAs are preferred to other modes of entry when companies want to enter a market faster.

### *Host-Country Factors*

Another stream of research has focused on the entry mode decision, based on host country variables. Building on the TCE framework, a major focus has been on transaction costs that arise as a result of differences between home and host countries. Any characteristics that may affect transaction costs, such as cultural distance, uncertainty, and avoidance of the host country (Kogut & Singh, 1988), affect the acquisition decision and its success (Brouthers & Brouthers, 2000). Slangen (2011) viewed verbal communication barriers as major transaction costs and showed that companies choose Greenfield over acquisitions when there are high communication barriers. Similarly, it has been found that high cultural distance is positively associated with Greenfield investment (Harzing, 2002), whereas low cultural distance positively affects the choice of acquisition as an entry mode (Kogut & Singh, 1988).

The entry mode decision to undertake an IA has also been studied at the macro level. Owen and Yawson (2010) used the human development index to analyze IA activity and showed that factors such as institutional quality, life expectancy, telephone usage, and school enrollments positively affected IA activity in a host country. Consistent with this study, Rossi and Volpin (2004) showed that acquisition activity is greater in countries with higher accounting standards and better shareholder protection. Norback, Persson, and Vlachos (2009) developed a model for the impact of tax requirements on IAs and showed that both profit and capital gains taxes influenced the IA decision. Erel et al. (2012) examined the likelihood of an acquisition at the macro level as well, and demonstrated that the quality of accounting disclosure and bilateral trade increases the likelihood of IAs between two countries. The uncertainty of the environment is another

factor that affects the acquisition decision. Firms prefer an acquisition over licensing in uncertain environments (Schilling & Steensma, 2002). Brouthers and Dikova (2010) studied demand uncertainty and found it to have a negative impact on the acquisition choice.

### *The Eclectic Paradigm*

One of the traditional frameworks that have been used to examine entry mode decisions is the eclectic paradigm, which is also known as the ownership-location-internalization (OLI) framework (Dunning, 1993). This stream of research studies IAs in terms of their antecedents. According to the OLI framework, an abundance of factor endowments in the host country affects FDI and, hence, the acquisition decision. Nagano and Yuan (2013) showed that firms choose IAs to take advantage of production factors in the host country, especially when these factors are internationally immobile. Another aspect of the OLI framework is internalization advantages. In order to internalize intangible assets, firms with high intangibles, R&D intensity, and advertisement intensity choose IAs over other entry modes (Anand & Delios, 2002; Markides & Ittner, 1994; Anand & Kogut, 1997), because IAs provide more control over important assets (Newburry & Zeira, 1997). Gubbi et al. (2010) examined this issue for emerging-economy firms and found that IAs facilitate the internalization of tangible and intangible resources that are both difficult to trade through market transactions or take time to develop internally.

### *The Resource-Based View*

As indicated earlier, the traditional frameworks of analysis, TCE and OLI, have focused on the antecedents of FDI and acquisition and examined the issue from the

acquirer's perspective. These frameworks provide limited insights, so that there has been more attention on the resources and capabilities of target firms. According to resource-based view, firms engage in acquisitions to obtain target resources and capabilities such as technological competencies, knowledge, networks, etc. (e.g., James, 2002). This stream of research posits that if there are valuable resources and capabilities in the target company, acquisitions are used rather than Greenfield investment. Firms also choose acquisitions when there are learning opportunities (Vermeulen & Barkema, 2001).

#### *Firm-Level Factors*

Several firm-level variables affect the choice of IA as an entry mode. For instance, Harzing (2002) showed that companies with a global strategy are more likely to use Greenfield investment, while a multi-domestic strategy is associated more with IAs. The level of autonomy given to the subsidiary also affects the acquisition decision. Slangen and Hennart (2008) found that Greenfield investment is less likely than an IA when the acquirer plans to grant the subsidiary considerable autonomy. Experience is another commonly used factor to explain the entry mode decision. As the overall international experience of a firm increases, a company will choose an entry mode that provides whole ownership, including an IA (Guillen, 2003). Similarly, Villalonga and McGahan (2005) demonstrated that acquisition experience positively affects the use of an IA over other entry modes. Factors related to corporate governance also affect the mode of entry. For instance, companies with boards that contain a higher proportion of outside directors and do not have duality in leadership are more likely to choose IAs over joint ventures (Datta, Musteen, & Herrmann, 2009). In another study, Reuer and Ragozzino (2012) examined the mode of entry with a new perspective by using the target's IPO

characteristics. Building on signaling theory, they showed that firms have a higher tendency to acquire, instead of partner with, targets that were taken public in their IPOs by reputable investment banks.

### *Performance Implications*

In addition to choices between different entry modes, the performance implications of the entry modes have been studied in international business literature. It has been found that IAs and joint ventures have lower performance compared to Greenfield investment, mainly due to the transactions costs involved (Li & Guisinger, 1991). Similarly, Nitsch, Beamish, and Makino (1996) found that Greenfield ventures have the best performance in entry modes, followed by joint ventures. In contrast, Georgopoulos and Preusse (2009) demonstrated that IAs exhibit better performance in terms of market share compared to Greenfield investment. Slangen and Hennart (2008) also compared IA with Greenfield investment and showed that the performance of the two options depended on the level of subsidiary integration, and that IAs outperform Greenfields when subsidiary integration is low or intermediate, whereas they underperform at higher integration levels.

In sum, there are various views and factors that affect the entry mode decision and the likelihood of choosing an IA over other entry modes. In their investigation of entry modes, Villalonga and McGahan (2005) found support for different factors such as resources, transaction costs, internalization, organizational learning, social embeddedness, asymmetric information, and real options. This suggests that all of the theories and views we discussed are highly related and complementary in explaining the mode of entry decision.

## **New Directions for Acquisition Research**

We have discussed acquisition studies from different literatures. Although there have been numerous studies on this topic, there are still some unanswered questions and gaps in the research. In this section, we identify these understudied areas and raise some questions and issues. Then, we turn our attention to opportunities and propose new avenues of research to address those issues.

### ***Motivation / Outcome Inconsistency***

#### *What is Motivation/Outcome Inconsistency?*

As discussed in previous sections, there are huge variations in findings about the outcomes of acquisitions, and there is no consensus about their impact. We suggest that motivation/outcome inconsistency can provide an explanation for conflicting results in the acquisition research. Companies engage in acquisitions for various reasons; enhancing innovativeness, improving their value by creating synergies, accessing important resources, improving productivity, preventing competitors' from becoming stronger, etc. On the other hand, most of the studies in the literature examine acquisition outcomes in terms of single performance measures, and most of them indicate high failure rates for acquisitions. However, companies have different motivations for acquisitions, and some of these motivations may not be covered by the measures used. For instance, a motivation for engaging in an acquisition could be improving productivity and efficiency, which may not be reflected in stock prices in the short term. Samples that are used for empirical studies contain acquirers with different motivations, but one dimension of performance is used to decide whether an acquisition is success or failure, which creates the problem of motivation/outcome inconsistency. Consistent with this

argument, Seth, Song, and Petit (2002) suggested that a possible explanation for the conflicting findings in the literature might be a failure to account for the different motives of each acquisition. This raises a question with regard to the definition of failure in acquisitions. What constitutes failure or success for an acquisition? Is it accounting profitability, market reaction, productivity, or something else? Can we treat an acquisition as a failure or success based on one measure, given that acquirers have different motivations? In the next section, we propose some ways to deal with the problem of motivation/outcome inconsistency.

#### *New Ways of Assessing Acquisition Outcomes*

We believe that the problem of motivation/outcome inconsistency can be addressed by developing new ways of assessing acquisition outcomes. Looking to one measure is not enough to determine whether an acquisition is a failure or not, because no single measure can cover different motivations. The samples used in acquisition studies contain firms with different motivations. However, the studies typically examine one dimension of the outcomes. Therefore, we should be cautious about the meaning of failure for an acquisition. For instance, profitability ratios have been criticized as assessing past performance but not providing insights about sustainable, long-term, competitive advantage (Buckley, et al., 1988). They may also be misleading, as firms can forego short-term profits for long-term growth (Buckley, et al., 1988). We suggest that acquisitions need to be elaborated beyond a single performance dimension, as they have implications for different outcomes. Moreover, one measure cannot cover the various motivations of acquirers for engaging in an acquisition. Therefore, various measures should be considered in accurately assessing the outcomes of acquisitions.

Another way to address this problem and to link the motivations of companies to the outcomes of acquisitions is to use an index that consists of various performance measures. In this way, most of the motivations of companies will be taken into account, and we will be able to assess the outcomes of acquisitions more effectively. Creating an index also has its own challenges, such as which measures to use and what weight should be given to each measure. However, this is an area with great potential for acquisition research.

### ***The Acquisition Paradox***

Acquisitions have been used extensively by companies despite the high failure rates reported in the literature, which creates a paradox. Why do companies continue to engage in acquisitions at an increasing rate, given the high failure rates in the literature? There has been a pressing need to respond to this research lacuna. CEO overconfidence, agency costs, and managerial hubris have been widely used in the finance literature to explain this paradox (e.g., Billet & Qian, 2008; Ismail, 2008). However, increasing public information, greater incentives for CEOs, and more effective monitoring by boards make these explanations puzzling. Therefore, this discrepancy has not been resolved completely, and the question of why companies continue to use acquisitions remains unanswered. We suggest that this paradox is the result of the methodologies used. Dutta and Jog (2009) also raised the issue of inconsistencies in acquisition research and stressed the importance of methodologies. There is a need to resolve this paradox. In the next section we will propose some ways of dealing with it.

### *Better Understanding of Motivations*

In an earlier section, we discussed the antecedents of acquisitions. Most of these antecedents are based on firm- and country-level indicators, and they do not provide us with a good understanding of why managers use acquisitions. In other words, these depend on interpretations of data, but we do not know the real motivations of managers for acquisitions. Therefore, we need a better understanding of the motivations for acquisitions, which will lead us to assess outcomes more accurately. The best way to assess these motivations is to use survey methodology. However, due to the difficulty of collecting survey data from decision-makers, very few studies use this methodology in acquisition research (e.g., Zollo and Meier, 2008; Zaheer, et al., 2013; Angwin & Meadows, 2009). We suggest that this is an understudied area with great potential for future research. Using survey methodology will help to address the motivation/outcome inconsistency problem. In addition, scholars can conduct qualitative research and develop new theories about the motivations for acquisitions.

### *Risk-Adjusted Returns*

Another new perspective that we propose for addressing the issue of the acquisition paradox is to use risk-adjusted returns to assess the outcomes of acquisitions. In any type of investment decision, in addition to potential return, risk is taken into consideration. The expected rate of return is adjusted according to the level of risk in order to assess the attractiveness of an investment. Although there are huge variations in the risk levels of acquisitions, most studies have not taken risk into consideration and have focused only on outcomes. However, outcomes should be adjusted based on the amount of risk, and we should expect more returns with higher risk. We propose using

risk-adjusted returns in order to assess and compare outcomes more effectively, as returns alone cannot enable us to make a good comparison.

### *Benchmarking*

One of the underlying reasons for the acquisition paradox is the ambiguity of the definition of failure, which was also discussed earlier. The determination of an acquisition as a failure or success is closely related to the methodology used, which might be another way to explain the acquisition paradox. Most of studies have compared pre- and post-acquisition performance or have examined the post-acquisition performance alone to gauge the impacts of acquisitions. Although they are used frequently, these approaches have some drawbacks. They do not enable us to see what would happen to the acquirer firm if it did not engage in an acquisition. We can think in the same way of the target firm, too. Despite econometric methods, there is no best way to determine whether a firm would perform better if it had not engaged in an acquisition. The best way to examine the impact would be to compare the performance of the company after engaging in an acquisition with its performance given no acquisition. This can also be thought of in terms of the acquisition's functioning as a treatment for the company and an examination of the impact of that treatment. To assess the effects of a treatment, benchmarking methodology can be used. In this methodology, it is crucial to find the right match in order to make an accurate comparison. The propensity score method, which is becoming increasingly popular (Villalonga, 2004), is an effective way of comparing two samples to assess the impact of an event. Lyon, Barber, and Tsai (1999) argue that large samples and adequate controls are necessary, and they suggest using control groups of similar firms to accurately assess the impact of an event. Using a control sample enables us to exclude

external factors that affect the performance of a company and assess the acquisition outcome more effectively.

In benchmarking, it is very important to note which company or indices are used. The overall market index, average industry returns, the returns of a matching firm based on industry size and the propensity score method are some potential benchmarking tools. The failure status of the acquirer can be different for each of these benchmarks. We suggest that rivals from the same industry are the best benchmarks for acquirers, as the main motivation of an acquisition is to out-perform rivals. Some empirical evidence is available about the impact of acquisitions on rivals within the industry. Prager (1992) found that railroad industry rivals' stock prices increased after the acquisition announcement of an incumbent firm. Similarly, Akdogu (2009) found negative market returns for rivals in response to acquisitions in the telecom industry. In a more recent study, Gaur, Malhotra, and Zhu (2013) examined the impact of acquisition announcements on the stock market returns of rivals in China and found support for significant reactions to acquisitions of rivals. All this evidence shows that the acquisition decision affects rivals and a firms' position relative to rivals. Given that it has started to be used recently (e.g., Graham, Martey, & Yawson, 2008; Dutta, 2008; Bertrand & Zitouna, 2008), benchmarking methodology should be employed more in future studies of acquisition by creating control (matching) samples, which will help to solve the acquisition paradox.

### *Ineffectiveness of Short-term Market Reaction*

Another issue that we raise is the commonly used measure of stock market reactions for assessing acquisitions. A significant number of studies have used short-term stock market reactions to acquisitions to assess their outcomes, following the basic principles that markets are efficient and that stock prices contain all of the pertinent information about the firms (Fama, 1970; MacKinlay, 1997). These studies associate short-term market returns with the value or wealth created by the acquisition, instead of the market's evaluation of the value it is expected to create (Shelton, 1988; Capron & Pistre, 2002; Shen & Cannella, 2003). However, there is growing body of literature (Fama & French, 2007; Zajac & Westphal, 2004) that argues that markets are not perfectly efficient all the times. Acquisitions are strategic actions by firms and may contain different motivations, as stated in previous sections. Due to the complexity of these events, it may be misleading to assume that the potential benefits and consequences of acquisitions are reflected in stock prices. Oler et al. (2008) examined the short-term market response to horizontal acquisitions and the long-term returns of these acquisitions. They found a conflict between the positive initial response and long-run returns. They explained this contradiction as a biased market response based on investor sentiment, heuristics and an inability to accurately assess the economic implications of acquisitions

Prior hypothesis bias, which asserts that people make decisions based on previously held beliefs about the impact of an event or a relationship (Pruit, 1961), has served as another explanation of the ineffectiveness of short-term market reactions. Some acquisitions are driven by market misvaluations in the hot markets. Investors respond to these acquisitions optimistically, and companies enjoy the returns in the short run due to

the general upward trend of the market (Petmezas, 2009). However, these short-term reactions are adjusted in the long run as the market realizes that the acquisitions were made under the pressure of an “urge to merge” without adequate evaluation (Petmezas, 2009). Laabs and Schiereck (2010) also found evidence for the adjustment of short-term market reaction in the long run. This empirical evidence shows that the short-term reactions of markets might not assess the impacts of acquisitions appropriately; they can best indicate the expectations of the market for the acquisition, rather than the actual value created (Haleblian, et al., 2009). Consistent with this argument, Zollo and Meier (2007) proposed that short-term market reactions to the acquisitions are a collective judgment of the likelihood of success of the acquisition instead of a sensible estimate of real returns, as the acquisition is not yet managed, and even the integrations plans are not formed. They also showed that the effect that is captured by short-term abnormal returns differs completely from those captured by other performance measures, and suggested that stock price returns should be used with caution. Building on behavioral theory from management, psychology, and economics, Schijven and Hitt (2012) developed a behavioral framework for investor reactions to acquisitions. They proved that investors react to acquisitions based on the premiums paid and available public information instead of on objective, rational-deductive assessments. Similarly, Chang and Tsai (2013) showed that positive responses to acquisitions, which are based on over-extrapolations from prior good performance, are corrected in the long run. Acquisitions are complex events, and their impacts may not be reflected accurately in short-term market reactions. Therefore, we should not rely on short-term market reactions to assess acquisitions, but should complement them with long-term market returns or other performance measures.

However, longitudinal studies of the effects of acquisitions are not without their concerns. The main problem with using long-term stock returns is the difficulty of maintaining representative sample sizes over time. This problem can be addressed by using an appropriate matching sample, as discussed in earlier sections. Another challenge of longitudinal studies is that the changes in product mix, strategies, etc., can affect firm performance during the studied period, which can make assessing the impact of acquisitions difficult. This suggests that various measures should be considered when examining acquisition success or failure.

### *New Trends in Acquisitions*

In this section, we discuss trends in acquisition, as they provide us with directions for future research. One of the trends that we observed is the increasing number of IAs compared to domestic acquisitions as a result of globalization and global competition.

According to the World Investment Report (UNCTAD, 2008) the value of IA activity in 2007 was \$1,637 billion, which accounted for 89.3% of total FDI. Acquisitions have been increasing their share of global FDI at the expense of Greenfield investment (UNCTAD, 2010). While IAs have a number of characteristics in common with domestic acquisitions, they also have unique differences, as we discussed in an earlier section. The literature treats IAs as a special case of domestic acquisitions (Rottig, 2009) and generalizes the findings of domestic acquisitions to IAs. However, IAs should be treated as a unique phenomenon. Due to their increasing number and growing importance for MNCs, there is a need for a better understanding of the opportunities and challenges of IAs. One of the areas that have potential in IA research is governance in the host country.

We still do not know which governance dimensions are most important in explaining the IA performance. There are also relatively few studies about the impact of different stakeholders on IA success. In one of these studies, Fong et al. (2013) found that Chinese consumers exhibit attitudes that are more negative toward the post-acquisition target following an acquisition by foreigners. We believe that stakeholders in the host country, such as non-governmental organizations, banks, and local suppliers are worth examining in terms of IAs.

Another pattern we have observed in acquisition activity is the increasing involvement of MNCs from emerging markets multinationals. Most acquisitions used to occur between developed countries. However, the percentage of acquisitions involving emerging countries has increased from 10% to 30% in last ten years (The Economist, 2010), whereas in 2010, the share of European countries had fallen to 29% (Saigol & Thomas, 2010). Most of the findings in the literature are based on public US or European acquirers. However, emerging firm acquirers and private firms have different characteristics, and the results of prior studies cannot be generalized to them. There is empirical evidence regarding the variations in returns based on different sampling techniques (Bernad, et al., 2013; Capron & Shen, 2007). In one of the few studies that examine private acquirers, Bargeron, Schlingemann, Stulz, and Zutter (2008) showed why public acquirers pay more premiums compared to private acquirers. Given the greater availability of data on emerging markets and private firms, we suggest that future acquisition studies should focus more on acquirers from emerging countries and on acquisitions undertaken by private firms.

### *Understudied Areas*

Lastly, we will note some understudied areas in acquisition research in order to point to potential areas for future research. Most of the literature examines the antecedents and outcomes of acquisitions. Antecedents are related to the period before the acquisition announcement, and outcomes are related to the period after the deal is completed. There is a period between the acquisition announcement and completion when a significant amount of negotiation is taking place. Almost 20% of announced acquisitions are withdrawn during this period. However, we do not know much about what is happening then. The reasons for withdrawn acquisition announcements and the impact of these on both acquirer and target are areas that need to be explored. The pre-announcement period is also an understudied area. Selecting the right target is crucial for creating synergies and an effective integration process. The target selection process before the announcements should be examined in future studies to answer following questions: How do acquirers select targets? What are the critical criteria that affect the selection of the right targets?

Acquisition studies usually examine a single acquisition and its impact on a company for a specific time period. However, acquisitions are usually a part of long-term organizational plans. Instead of taking a one-shot picture of a company, scholars should adopt a larger perspective and look at other acquisitions and other strategies of the company. Barkema and Schijven (2008) states that “the performance implications of a single acquisition are dependent on that acquisition’s position within the acquirers’ acquisition sequence. Thus, accounting for post-acquisition integration as a long-term process rather than a ‘one-shot game’ can reveal acquirer gains that are often overlooked

when examining single acquisition events” (Barkema & Schijven, 2008b: 715).

Following this notion, a series of acquisitions of firms can be analyzed in the future. The question of which acquisitions create more value in a sequence of acquisitions is an interesting one that has potential for future research.

### **Conclusion**

Scholars from multiple fields, including management, finance, and economics have shown increasing interest in acquisitions. As indicated earlier, acquisition research is still incomplete, and there are a number of issues that need to be resolved. In this study, we provide a review of acquisition research, including the most recent work in the field. More important, building on research gaps and understudies areas, we discuss new directions and insights for acquisition research. One of the major problems is the discrepancy between the findings and practitioners’ behavior, which we refer as the acquisition paradox. We also discuss motivation/outcome inconsistency as another problem in previous studies. We present some methodological and measurement problems that lead to problems in acquisition research. We raise questions about the definition of failure for acquisitions and suggest new ways of assessing acquisition outcomes. One of the areas we discuss is the inefficiency of using short-term market reactions, which have been used widely by finance scholars to assess acquisition outcomes. Based on the theoretical and empirical evidence, we prove that short-term market reactions are not an appropriate measure of acquisition performance. We also draw attention to trends in acquisitions and show that IAs and acquisitions done by private firms and multinationals in emerging countries need more attention, due to their increasing use. Finally, we identify some understudied areas, such as the pre-

announcement period, the negotiation and due diligence processes, factors that affect acquisition completion, and serial acquisitions. We believe that our study sheds light on acquisition research and indicates a better way to study and understand acquisitions.

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## APPENDIX

### Appendix A: Process of Creating Control Samples

*Panel A: Process for non-acquisition cases*

	IA	All companies
Main samples	4825	165466
A company can have two acquisitions in a year. We include only one acquisition per year and duplicates are excluded in both samples	4,011	165466
Some companies appear in both samples as the full sample contains all firms. We exclude the companies that have engaged in either IA or domestic acquisition from the full sample. Now the full sample contains only the companies that have no acquisition. Companies that have domestic acquisition are also excluded from the main sample and main sample now contains companies with only IA	2,506	151,761
Matching gave us a control sample of 2,445 observations	2,445	2,445
Some of the companies are assigned twice as a control company in the same year, which creates repetition. We excluded these observations from both samples.	2320	2320

*Panel B: Process for domestic acquisitions*

<b>Process for Control 1 (Domestic Acquisitions)</b>	IA	Domestic Acquisitions
Main samples (1985 – 2007)	4825	20,861
A company can have two acquisitions in a year. We include only one acquisition per year for a company and duplicates are excluded in both samples.	4,011	17,872
Some companies have both IA and domestic acquisition in the same year. They are excluded from the analysis as we want to see the real impact of IA. Now, we have companies that have only IA and companies with only domestic acquisition.	3,002	13,998
Firm Size (asset and equity) data is downloaded from Compustat in order to do the matching and some observations are excluded due to missing data. The matching procedure is done with these samples. We found the closest company in terms of size from domestic acquisitions sample (in the same industry).	2438	11702
Matching gave us a control sample of 2043 observations. We couldn't find a matching company for some observations.	2043	2043
Some of the companies are assigned twice as a control company in the same year, which creates repetition. We excluded these observations from both samples.	1646	1646

## Appendix B: Descriptive Statistics for IA and Control Samples

This table provides the summary statistics for IA and control samples. Panel A contains the statistics for control samples in comparison with the row samples. First number is the mean, and standard deviations are given in parentheses. Panel B and C contains the descriptive statistics for IA and domestic acquisition samples (control1) for IA and non-acquisition samples (control2) respectively. The values below the difference in parentheses are the associated t-values of the difference test for mean and Pearson chi2 value for equality of median test.

### *Panel A: Statistics for Row and Control Samples*

	Domestic Acquisitions			Non Acquisition Cases		
	Row	Control	Diff	Row	Control	Diff
Total Assets	2464.3 (11947.4)	2720.6 (6223.2)	-295.3 (-0.92)	4125.7 (41557.8)	5478.9 (20256.1)	-1321.9 (-1.5)
Leverage	0.49 (0.25)	0.50 (0.24)	-0.01** (-1.99)	0.16 (0.19)	0.17 (0.17)	-0.01** (-2.51)
Transaction Size	276.0 (2505.2)	279.0 (1279.6)	-3.5 (-0.1)	N/A N/A	N/A N/A	N/A N/A

### *Panel B: Statistics for IA and Control 2 (Non-Acquisition Companies)*

Variable	Mean			Median		
	IA	Control 2	Difference	IA	Control 2	Difference
Total Assets	8148 (716)	5748.7 (21130)	2176** (2.4)	716	694	22 (0.83)
R&D Expense	263 (23)	359.6 (1102)	-96.7** (-2.2)	23.0	23	-0.41 (0.95)
Intangibles	1355 (83)	892.7 (5107)	461.8** (2.0)	83.60	30.1	53.50 (0.00)
Leverage	0.51 (0.20)	0.17 (0.17)	0.00 (-0.25)	0.53	0.51	0.01 (0.29)
Profitability	-0.08 (0.64)	-0.04 (0.55)	-0.03 (-1.60)	0.05	0.04	0.00 (0.19)

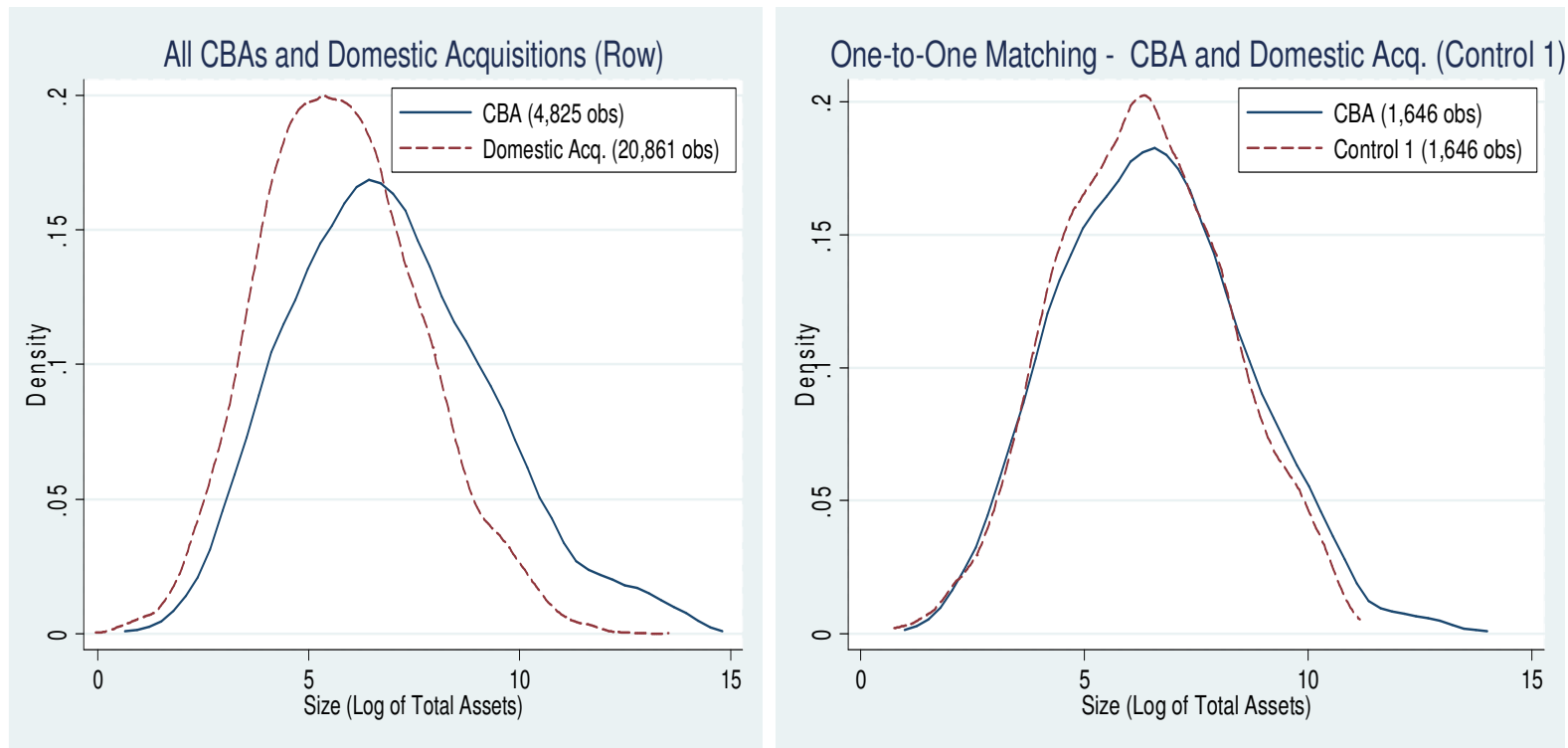
### *Panel C Statistics for IA and Control 1 (Domestic Acquisitions)*

Variable	Mean			Median		
	IA	Control 1	Diff	IA	Control 1	Diff
Transaction Value	4544.7 (60517.4)	274.7 (1261.7)	4497.2*** (3.10)	43.18	40.00	3.18 (0.43)
Total Assets	7278.2 (37969.5)	2647.0 (6111.6)	4936.09*** (4.80)	622.86	506.24	116.62* (0.06)
R&D Expense	209.7 (808.9)	132.2 (425.9)	77.49** (2.17)	18.14	15.09	3.00 (0.34)
Intangibles	1096.8 (5121)	528.3 (1566.7)	568.51*** (3.20)	62.53	56.69	5.84 (0.46)
Leverage	0.53 (0.23)	0.50 (0.24)	0.01 (1.16)	0.55	0.51	0.04** (0.01)
Profitability	-0.31 (5.22)	-0.14 (2.14)	-0.17 (1.01)	0.05	0.05	0.00 (0.29)

### Appendix C: Size Distribution of IA and Control Samples

The figures provide the distribution of companies in terms of size. First figures in each panel are the comparison of main sample (IA) and the sample of all domestic acquisitions for Panel A and the sample of all non-acquisition firms for Panel B. The second figures are the comparison of IA and control sample derived from companies with domestic acquisitions (control 1) for Panel A and the control sample that derived from non-acquisition firms (control 2) for Panel B. These figures show how closer are control samples to treatment sample compared to the full samples before matching.

*Panel A: Size distribution of IA (Treatment) and Domestic Acquisition (Control 1) Samples Before and After Matching*



**Appendix C – continued: Size distribution of IA and control samples**

*Panel B: Size distribution of IA (Treatment) and Non- Acquisition (Control 2) Samples Before and After Matching*

