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# Three Essays on Firm Learning and Performance in the Context of Corporate Divestiture

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# Three Essays on Firm Learning and Performance in the Context of Corporate Divestiture

## **Abstract**

The question of whether and how firms learn continues to fuel debate amongst strategic management scholars. Within its answer lies the potential for identifying and capitalizing upon valuable drivers of firm performance advantage. In this dissertation, I take aim at this question by investigating the viability and efficacy of three different learning processes in the context of corporate divestiture. This approach not only permits a comprehensive examination of firm learning, but also affords the opportunity to advance our understanding of a heretofore understudied, but important, mode of corporate development.

Using a combination of publicly-available datasets and hand-collected data, I construct a large sample of cross-industry and cross-border divestitures originating from U.S.-headquartered firms during a twenty-six year period. From this platform, I consider whether and how firms may learn through 1) direct experience accumulation, 2) internal experience transfer, and 3) external experience transfer. In the first case, by developing six process-based performance measures that closely track the unfolding of the divestiture process, I find that the firm's own divestiture experience acts as a double-edged sword, both augmenting and impairing different aspects of divestiture performance. In the second, I consider activity-to-activity learning transfer, and examine if experience gained in a firm's execution of acquisitions is transferable to its execution of divestitures. Not only do I find that a firm's learning how to acquire can directly impact its divestiture performance, I find that a firm's learning how to acquire influences its ability to learn from its own direct divestiture experience. In the third case, I consider experience transfer across firm boundaries, specifically by examining divestiture experience sourced from the investment bankers and buyers engaged in the firm's divestitures. I find that this external experience can not only play an outsize role in firm divestiture performance, but that it often impedes it. Taken together, these findings contribute new insights towards answering the question of whether and how firms learn.

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THREE ESSAYS ON FIRM LEARNING AND PERFORMANCE IN THE CONTEXT  
OF CORPORATE DIVESTITURE

Patia J. McGrath

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in

Management

For the Graduate Group in Managerial Science and Applied Economics

Presented to the Faculties of the University of Pennsylvania

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THREE ESSAYS ON FIRM LEARNING AND PERFORMANCE IN THE CONTEXT  
OF CORPORATE DIVESTITURE

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Patia Jean McGrath

## DEDICATION

*To my father, Francis McGrath, who never doubted that I could,  
and to my husband, David Tew, who never questioned that I should.*

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## **ABSTRACT**

### **THREE ESSAYS ON FIRM LEARNING AND PERFORMANCE IN THE CONTEXT OF CORPORATE DIVESTITURE**

Patia McGrath

Lori Rosenkopf and Harbir Singh

The question of whether and how firms learn continues to fuel debate amongst strategic management scholars. Within its answer lies the potential for identifying and capitalizing upon valuable drivers of firm performance advantage. In this dissertation, I take aim at this question by investigating the viability and efficacy of three different learning processes in the context of corporate divestiture. This approach not only permits a comprehensive examination of firm learning, but also affords the opportunity to advance our understanding of a heretofore understudied, but important, mode of corporate development.

Using a combination of publicly-available datasets and hand-collected data, I construct a large sample of cross-industry and cross-border divestitures originating from U.S.-headquartered firms during a twenty-six year period. From this platform, I consider whether and how firms may learn through 1) direct experience accumulation, 2) internal experience transfer, and 3) external experience transfer. In the first case, by developing six process-based performance measures that closely track the unfolding of the divestiture process, I find that the firm's own divestiture experience acts as a double-edged sword, both augmenting and impairing different aspects of divestiture performance. In the second, I consider activity-to-activity learning transfer, and examine if experience gained in a firm's execution of acquisitions is transferable to its execution of divestitures. Not only do I find that a firm's learning how to acquire can directly impact its divestiture performance, I find that a firm's learning how to acquire influences its ability to learn from its own direct divestiture experience. In the third case, I consider experience transfer across

firm boundaries, specifically by examining divestiture experience sourced from the investment bankers and buyers engaged in the firm's divestitures. I find that this external experience can not only play an outside role in firm divestiture performance, but that it often impedes it. Taken together, these findings contribute new insights towards answering the question of whether and how firms learn.

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# 1 DISSERTATION INTRODUCTION

*“An organization's ability to learn, and translate that learning into action rapidly, is the ultimate competitive advantage.” – Jack Welch*

This dissertation was motivated by my desire to help firms achieve superior divestiture performance, with a focus on deciphering the role that divestiture process execution may play in realizing performance advantage. My interest in this topic emerged from my work experiences at a large multinational corporation, where I observed how taxing, dreaded, and difficult the divestiture process could be for organizations. This unfavorable view of divestiture is by no means anomalous; divestiture's checkered reputation and (often unfair) association with strategic mistakes has given rise to the widely-held perception that it is the “ugly duckling” of corporate development (Boot, 1992; Brauer, 2006). In light of the fact that divestiture is a crucial strategic tool for firm scope change, this aversion surprised and intrigued me. It also suggested that possibilities for improving divestiture execution may be going unaddressed, representing hidden opportunities for achieving superior divestiture performance.

In and of itself, as an area of study, divestiture has significant scholarly and managerial relevance. Divestiture has long been an inveterate part of the corporate strategy landscape, consistently accounting for one-third of M&A activity and representing over one trillion dollars in average annual deal value worldwide. Although underexamined relative to other modes of firm scope change, such as acquisitions and alliances (perhaps due to its managerial disfavor as well as several analytical challenges associated with its examination, cf. Feldman and McGrath, 2016), scholars have made great strides in determining the drivers of the divestiture decision – which includes the decision to divest (Berry, 2010; Capron et al., 2001; Duhaime and Grant, 1984; Montgomery and Thomas, 1988; Porter, 1976; Ravenscraft and Scherer, 1991) and the choice of

assets for divestiture (Bergh, 1995; Chang, 1996; Chang and Singh, 1999; Kaplan and Weisbach, 1992; Moliterno and Wiersema, 2007) -- as well as the ramifications of that decision (Colak and Whited, 2007; Feldman, 2014; Hite and Owers; 1983; John and Ofek, 1995; Markides, 1992). However, with few exceptions (e.g. Bergh and Lim, 2008, Bergh et al., 2008; Gopinath and Becker, 2000; Moschieri, 2011; Nees, 1981; Semadeni and Cannella, 2011), the divestiture process has received only limited, and typically qualitative, attention.

In this dissertation, I examine the potential for firm learning in the divestiture process and investigate its viability as a source of divestiture performance heterogeneity. The issue of whether and how firms learn has been a topic of vigorous discussion for decades, especially amongst scholars in the organizational theory (Cyert and March, 1963; Huber, 1991; Levitt and March, 1988) and strategic management disciplines (Grant, 1996, Kogut and Zander, 1992; Teece et al., 1997; Zollo and Winter, 2002). Fueling this topic's interest is the fact that valuable firm resources, from knowledge to routines to capabilities, are an outgrowth of firm learning (Argote and Miron-Spektor, 2011; Helfat et al., 2007; Nelson and Winter, 1982; Zollo and Winter, 2002). In advancing our understanding of firm learning, scholars are advancing our understanding of an important source of firm performance advantage. As such, targeting learning in my effort to unpack how firms may achieve divestiture performance advantage is both meaningful and promising.

Yet, against this backdrop of learning's performance possibilities lie some stark realities. Empirical results for the most fundamental of learning processes – learning through first-hand experience – have been strikingly inconsistent. Positive, neutral, and even negative performance effects associated with experience have all been demonstrated, including in the context of scope change (cf. Barkema and Schijven, 2008; King et al., 2004). Scholars have offered numerous reasons for these inconsistencies – inappropriate generalization, causal ambiguity, myopia, superstitious learning, and organizational amnesia among them – and underscored their learning

perils (Argote et al., 1990; Barney, 1991; Huber, 1991; Levinthal and March, 1993; Levitt and March, 1988; Snyder and Cummings, 1998; Zollo and Winter, 2002). Hence, for all of its promise, the role of learning in realizing firm performance advantage – and specifically, in this dissertation, divestiture performance advantage -- is decidedly unclear.

In this dissertation, I attack the issue of whether and how firms may learn to divest by examining three processes: first-hand experience accumulation, internal experience transfer, and external experience transfer. In so doing, I ask and answer the following three research questions:

1. Whether and how firm divestiture experience impacts firm divestiture performance,
2. Whether and how firm acquisition experience impacts firm divestiture performance, and
3. Whether and how externally-sourced divestiture experience impacts firm divestiture performance.

To do so, using a combination of data from widely-available databases and hand-collected from corporate regulatory filings, I constructed a large sample of cross-industry and cross-border divestitures originating from public U.S.-headquartered firms during a twenty-six year period. I analyze these data using a variety of regression estimation techniques. Care was taken to account for the potential of non-random selection stemming from the firm's decision to divest, as well as several additional sources of possible sample selection bias.

In the first case, first-hand experience accumulation, I employ a quantitative process-based view of divestiture, developing six process-based performance measures that closely track the unfolding of the divestiture process. While strong links between divestiture experience and performance were identified, I find that the firm's own divestiture experience acts as a double-

edged sword, both augmenting and impairing different aspects of divestiture performance. In the second, internal experience transfer, I consider activity-to-activity learning transfer, and examine if experience gained in a firm's execution of acquisitions is transferable to its execution of divestitures. Not only do I find that a firm's learning how to acquire can directly impact its divestiture performance, I find that a firm's learning how to acquire influences its ability to learn from its own direct divestiture experience. However, I find that these transfer processes are curvilinear, thus fueling incongruities in their performance effects. In the third case, external experience transfer, I consider experience transfer across firm boundaries, specifically by examining divestiture experience sourced from the investment bankers and buyers engaged in the firm's divestitures. I find that this external experience can not only play an outsize role in firm divestiture performance, but that it often impedes it. Notably, while I find that the activation of learning transfer varies with the source of the experience, I further find that when a certain transfer path is present for the investment banks and the buyers, the performance-enhancing (or performance-impairing) effect of that external transfer on divestiture performance is the same, irrespective of the source and its underlying motivations.

Taken together, the results of this dissertation contribute new insights towards answering the question of whether and how firms learn, revealing a complex and nuanced picture of firm learning in the context of corporate divestiture. Broadly stated, yes, the results indicate that firms can learn to divest. And yes, each of the three processes examined – first-hand experience accumulation, internal experience transfer, and external experience transfer – represent possible alternative paths for learning, although both transfer processes, on average, offer divestiture performance impact above and beyond that provided by learning-by-doing. However, in none of these options were the relationships consistently viable or beneficial across the set of process performance metrics employed. As such, these results surfaced the presence of unavoidable managerial tradeoffs -- across performance variables, within the accumulation of a single type of

experience, and between experience variables. Although, on an average basis, the magnitude of learning's effects on divestiture performance was comparatively smaller than those of other controlled factors, evidence for their presence was undeniably strong. Indisputably, these results are complex. Yet, within their complexity lies their power: they provide a sharper and more realistic view of firm learning than previously available, and serve as a guiding map for firms to identify and capitalize upon their own best opportunities for leveraging learning in achieving superior divestiture performance.

The insights of this dissertation also serve to offer significant implications for several major areas in strategic management research, especially concerning the issues of firm scope, the market for corporate control, and firm capability development. Through its deep examination of divestiture, as well as its investigation of divestiture's interplay with acquisition, this dissertation sheds new light on value creation through scope change and underscores the importance of considering the combination of scope expansion and scope contraction when evaluating the efficacy of a firm's boundary-changing moves. Moreover, this dissertation advances our understanding of the market for corporate control, shedding light on both the characteristics and the operations of this market. The "strategic corporate" firms under examination in this dissertation are important players in this market, participating not only as reactive sellers of assets, but also as proactive buyers. Further, firms and investment bank intermediaries, benefitting from their divestiture experience, facilitate and optimize the functioning of the market for corporate control. This dissertation additionally surfaces intriguing implications for capability development in firms. The role of concurrent learning in capability development is raised to the fore, wherein the potential for and impact of comingling between different (here, divestiture and acquisition) capability-building processes is surfaced. Implications concerning the role of external capability sourcing in the firm's capability development process are also brought into sharp relief.



## **2 EXPERIENTIAL LEARNING IN CORPORATE DIVESTITURE**

The link between firm experience and performance has been shown to be inconsistent in several corporate strategy contexts, including scope change. While repeated experiences in a scope change activity position the firm to develop routines and capabilities that may then be applied during the next instance of the activity, learning barriers may prevent their successful application and thereby impair performance outcomes. However, focusing on the activity process -- and the outcome measures that closely track that process -- may help disentangle the experience-performance puzzle. Considering the experience-performance relationship in the setting of corporate divestiture, a primary yet underexamined mode of scope change, not only contributes to our understanding of this important corporate strategic activity but also provides the opportunity to quantitatively examine process outcomes in a large sample context. Six divestiture process performance measures are developed and used to assess a cross-industry and cross-border sample of divestitures initiated by U.S.-headquartered public firms over a twenty-six year period. Facilitated by its focus on the divestiture process itself, this paper reveals a strong but complex relationship between firm divestiture experience and process performance. I find that the firm's own divestiture experience acts as a double-edged sword, both augmenting and impairing different aspects of divestiture performance.

### **2.1 INTRODUCTION**

A fundamental focus of the strategy field is to decipher the drivers of superior, persistent firm performance. Organizational learning (Huber, 1991; Levitt and March, 1988) has emerged as being a powerful source of firm performance heterogeneity, and scholars have made great strides in strengthening our understanding of how firms may learn from their experience to develop and deploy the routines and capabilities needed to foster profitable growth (Barney, 1991; Helfat et al., 2007; Kogut and Zander, 1992; Nelson and Winter, 1982; Prahalad and

Hamel, 1990; Zollo and Winter, 2002). One robust area of work has examined the relationship between firm experience and performance in the context of firm scope change, and particularly the role that experience may play in expanding firm scope through such mechanisms as acquisition, internationalization, and alliance formation (Anand and Khanna, 2000; Hayward, 2002; Halebian and Finkelstein, 1999; Kale and Singh, 2007; Nadolska and Barkema, 2007; Sarkar et al., 2009; Zollo and Singh, 2004). Intriguingly, the link between firm experience and performance has proven to be stubbornly inconsistent, making it challenging for firms to translate their experiences into performance gains.

This paper aims to help disentangle the experience-performance puzzle by investigating their relationship in a comparatively understudied but important context, corporate divestiture, which is a primary mode of firm scope reduction. Furthermore, this research examines the interplay between firm experience and performance at the process level of analysis as a means to potentially uncover new insights that are not visible at higher levels of analysis. Stated simply, this paper focuses on the divestiture process, and examines whether and how firm divestiture experience may be related to its divestiture process performance.

In order to capture the richness of the divestiture process and fully explore its potential as a platform for performance heterogeneity, six outcome measures were developed and applied to a large sample of cross-industry and cross-border divestitures announced by public, U.S.-headquartered firms over a twenty-six year period. In considering the divestiture experience-performance link at the process level in a quantitative, large sample way, this paper is able to contribute on several fronts. For one, this research advances our understanding about corporate divestiture. Notably, by identifying key factors in the divestiture process and by providing measures to assess its performance, this research helps to open the “black box” of the divestiture process. For another, by examining the role of experience in this important but understudied strategic process of firm scope reduction, this paper contributes to both the corporate strategy and

organizational learning literatures. Lastly, by focusing on the divestiture process itself, this research is able to offer new insights into the relationship between firm experience and performance in the crucial arena of corporate scope.

## **2.2 THEORY & HYPOTHESES**

### **2.2.1 The (potential) relationship between experience and performance**

The concept of learning-by-doing, or experiential learning, is a cornerstone of the organizational learning literature (Cyert and March, 1963; Huber, 1991; Levitt and March, 1988). The premise is simple: the firm learns as it gains experience by repeatedly performing a particular activity. Each time it performs the activity, the firm receives performance feedback. It can subsequently adjust its actions according to this feedback and relative to its aspirations, and thereby attempt to improve its performance. As the firm accumulates experience through repetition of the activity, it can incrementally progress along its learning curve (Dutton and Thomas, 1984; Yelle, 1979). Intention is not a precondition for learning; rather than being the objective of the activity, learning may in fact be an unexpected dividend earned from a firm's experience investment.

The transformation of the firm's accumulated experiences into performance benefits is catalyzed by the firm's development of routines and capabilities. Routines are action patterns that arise to address the repetitive, predictable tasks posed by the regular requirements of stable operating environment of the firm (Nelson and Winter, 1982; Winter, 1995, 2003). Like a dependable engine, routines offer firms speed and efficiency performance gains in their operational activities. Routines evolve slowly, and often passively in a context-specific manner (Cohen et al., 1996; Nelson and Winter, 1982). To address the challenges posed by the rapidly changing demands of their internal and external environments, firms can hone capabilities. To develop them, firms deliberately articulate and codify the knowledge gleaned from their

experiences. As such, they are not costless to build, but they offer firms the advantage of being able to reconfigure and modify their existing routines and resources -- as well as create new ones -- thereby offering the firm new paths and opportunities to navigate their dynamic environments and achieve sustained competitive advantage (Amit and Schoemaker, 1993; Barney, 1991; Helfat, 1997; Helfat et al., 2007; Zollo and Winter, 2002).

The beneficial link between accumulated experience and performance was first powerfully demonstrated empirically in manufacturing settings (e.g. Argote, 1999; Argote and Epple, 1990), wherein the unit cost of production declined as a function of cumulative output. In the time hence, researchers have explored the relationship between experience and performance in numerous, and decidedly dynamic and complex, activity domains, including in the important strategic arena of scope change. Here, there has been particular attention paid to considering how experience may lead to performance gains in scope expansion activities involving acquisitions, internationalization, and alliances (Anand and Khanna, 2000; Barkema et al., 1996; Delios and Henisz, 2003; Finkelstein and Halebian, 2002; Hayward, 2002; Zollo et al., 2002; Zollo and Singh, 2004). However, in shifting the research lens from the operational manufacturing tasks to complex and variegated strategic activities, findings concerning the purported link between firm experience and performance became strikingly inconsistent (cf. Barkema and Schijven, 2008; King et al., 2004). Indeed, in studying firms' scope changing activities, researchers have a clear vantage point from which to identify challenges to firm' learning and benefiting from their experiences.

Broadly classified, these learning challenges originate from three areas. First, hurdles to learning may be posed by the nature of the activity itself. The more the activity rests on tacit knowledge, and the more complex the activity, the more onerous learning becomes. Firms may be required to make significant, deliberate efforts to learning from their experiences in these types of activities – and firms may be unwilling to make these expensive investments. Second, learning

challenges may stem from the learning context. The less frequently the activity is performed, the fewer the learning opportunities. Should the activities occur in interspersed bursts of activity, rather than in a regular and steady way, the firm will not be able to make best use of the outcome feedback that it is receiving. Ideally, the experiences should occur in a measured, step-by-step fashion, with sufficient time between each step for the firm to revise and build its knowledge base (Cyert and March, 1963; Laamanen and Keil; 2008). Further, the less similar the firm's past experience is to the activity at hand – be it in terms of its process, location of implementation, or even industry setting -- the less applicable and beneficial the prior experience will be (Barkema et al., 1996; Ellis et al., 2011; Hayward, 2002; Nadolska and Barkema, 2007; Zollo and Reuer, 2010). Third, the firm itself may, in fact, be responsible for its own difficulties in translating its experience to performance gains. Indeed, the firm's own experience can hurt it (Haleblian and Finkelstein, 1999; Huber, 1991; Levinthal and March, 1993; Levitt and March, 1988). Firms may inappropriately generalize from its past experience, and this may cause firms to misapply their past experiences to the focal activity (Finkelstein and Haleblian, 2002; Gavetti et al., 2005). Causal ambiguity can plague the firm internally, wherein it is unable to identify the aspects of its experience that are driving performance gains, and therefore may fail when it attempts to reapply its experience elsewhere (Barney, 1991; Lippman and Rumelt, 1982; Peteraf, 1993). Given the relative complexity and intermittency of scope changing activities, firms are especially vulnerable to superstitious learning, wherein firms “don't really know what they think they know” (Levitt and March, 1988; Zollo, 2009) and have misunderstood the relationship between action and outcome.

This paper shifts attention from the context of scope expansion to that of scope reduction and the process of corporate divestiture in order to investigate the potential relationship between firm experience and performance. Focusing directly on process, in this under-researched but

critical setting, can serve to help reveal new insights about the potential relationship between firm experience and performance.

## **2.2.2 The corporate divestiture context**

Few topics are as central to strategic management research as firm scope. In the decades since the foundational works of Penrose (1959), Chandler (1962) and Rumelt (1974), scholarly interest in firm boundary decisions and the means by which firms engage in their boundary-changing moves has remained consistently strong. The extant literature has placed particular focus on investigating scope expansion and the acquisitions, alliances, and joint ventures used by firms to achieve it (e.g. Anand and Khanna, 2000; Kale and Singh, 2007; Nadolska and Barkema, 2007; Puranam et al., 2006; Sarkar et al., 2009; Zollo and Singh 2004). Although understudied in comparison, scope reduction is a similarly crucial aspect of firms' boundary decisions. Corporate divestiture is a primary mode of this type of scope change.

Corporate divestiture is defined as the disposal of assets by a firm, which may be achieved through a variety of market mechanisms, such as sell-off, spin-off or leveraged buyout (Reed and Lajoux, 1998). In this research, the assets of focus are business units, which are economically distinct business areas of the parent company. Business units are typically defined in terms of the product markets or geographic regions in which parent competes (Hill and Jones, 1995). For a transaction to qualify as a divestiture, the parent must lose majority control of the unit as a condition of the sale.

The prevalence and relevance of divestiture as a tool for scope change is captured by Figure 1, which depicts an upward trajectory in its use by firms. In the last ten years alone, there has been a twenty-five percent increase in divestiture volume globally, with over fourteen thousand divestitures announced in 2015 reflecting over \$1.4 trillion in deal value. Moreover, as shown in Figure 2, divestitures account for approximately one-third of M&A volume overall.

Further, when compared with mergers and acquisitions, divestitures have been found to create more value for the firm on average in both the short- and the long-terms (cf. Bergh et al., 2008; Comment and Jarrell, 1995; Feldman, 2015; Houston et al., 2001; Kaplan and Weisbach, 1992; Lee and Madhavan, 2010). While these statistics make the relative paucity of divestiture research even more surprising, they also serve to evidence the importance and potential of divestiture research.

To date, extant strategic management research on divestiture has primarily emphasized the firm's decision to divest, which includes the drivers of the divestiture decision, as well as the choice of business unit selected for divestiture. First, there are a number of factors that may influence a firm's decision to divest. Poor performance of the parent firm or the target business unit is a commonly cited divestiture driver (Duhaim and Grant, 1984; Montgomery and Thomas, 1988; Ravenscraft and Scherer, 1991). In some cases, this poor performance is connected to a lackluster acquisition, and the divestiture serves as tangible evidence of the acquisition's disappointment (Bergh, 1997; Kaplan and Weisbach, 1992; Porter, 1976). Strategic rationales often underpin divestiture, wherein firms divest in an aim to refocus the business or to shed non-core assets (Chang and Singh, 1999; Markides, 1992; Montgomery et al., 1984). Further, a firm may decide that its assets could be put to higher value or more efficient use elsewhere (Berry, 2010; Kaul, 2012; Montgomery and Wernerfelt, 1988), and the divestiture would consequently liberate precious managerial and operational resources for application to other, more attractive opportunities within the firm. Similarly, a firm may divest assets simply to finance other growth opportunities it deems more beneficial. In response to the stock analyst community and financial markets, firms may divest with the objective of presenting the firm in a simplified and more easily analyzed manner (Feldman, 2015; Zuckerman, 2000). Regulatory bodies, such as the Federal Trade Commission (FTC) and Department of Justice (DOJ), may mandate divestitures to preserve competition, typically upon a merger or acquisition announcement. To preempt such

required involuntary divestitures, firms may opt to proactively shed assets while they are engaging in an acquisition or merger, in an effort to build their case for regulatory approval of the transaction. Activist investors may also spur firm divestment (Goranova and Ryan, 2014).

Second, another key part of the decision to divest is the choice of unit to be divested. Poorly performing units are likely targets for divestiture, with lower profitability and lower market share increasing the likelihood of a unit's being jettisoned (Duhaime and Grant 1984, Ravenscraft and Scherer 1991). Depending on the context, such as ownership concentration in the parent, smaller or larger units may be more likely selected for divestiture (Bergh 1995, Chang 1996, Duhaime and Baird 1987). The unit's origins and age are also influencers, with acquired units being particularly susceptible to divestiture (Chang and Singh 1999, Karim and Mitchell 2004, Ravenscraft and Scherer 1991). The relatedness of the business unit to the parent is another factor, with unrelatedness being a predictor of divestment (Bergh 1995, Chang 1996).

As part of this research on the decision to divest, researchers have correspondingly considered the performance implications of the divestiture decision. Given the high hurdles to measuring unit performance (of which many stem from the scant regulatory reporting requirements for business units), prior divestiture research has typically examined the financial performance, using market- or accounting-based measures, of the parent firm (Bowman et al., 1999; Brauer, 2006). Consideration of the divestiture process, along with its performance ramifications, has been limited. As a result, the divestiture process has largely remained as a "black box" to scholars and researchers alike. By taking a close look at the divestiture process, there is a rich opportunity to not only shed more light on an important mode of scope change, but also to reveal new insights about the relationship between firm experience and performance.



### **2.2.3 The corporate divestiture process**

The corporate divestiture process is complex and challenging, involving many activities, decisions, and stakeholders (cf. Gole and Hilger, 2008). It begins with the firm's announcement of its intention to divest a particular unit, and ends upon the completion of the divestiture (or with its early termination). Broadly described, there are two main parts to the divestiture process: the execution of the divestiture transaction or "deal", and the separation of the target unit from the parent. These parts occur largely in parallel and influence one another, which means that they must be considered by the firm concurrently. Moreover, all transaction and separation activities must be fully finished for the divestiture to reach completion.

The divestiture transaction encompasses the carrying out of the deal "mechanics." This includes the structuring of the deal, such as whether the unit will be sold off or spun off (Bergh and Lim, 2008). Another important activity is determining whether, in the case of a sell off, if the sale will be conducted through an auction or negotiated through a private sale (Boone and Mulherin, 2007). Both options require a selling process, which typically involves the likes of marketing efforts, soliciting letters of interest, management presentations, establishing "data rooms" for unit due diligence efforts, and hosting shortlisted buyers. The parent firm must also engage in a thorough process of cost quantification, wherein it determines the one-time and ongoing costs associated with the divestiture. This is far from easy, as interdependencies between the unit and parent, or connections between the unit and external parties may be tacit and thus challenging to identify, let alone quantify. Crucially, these activities and their decisions are often fluid – the decision to spin or sell, for example, can change as the divestiture process unfolds and the firm better understands the market's appetite for a particular structure and can better estimate the likely gains (or losses) associated with each option.

The separation of the unit from the parent, aptly described as disentanglement or disintegration, is the other major area of activity in the divestiture process (Harrigan, 1981). A key

step to separation is defining the boundaries of the unit that is to be divested, and determining the resources that will go with the unit and those that will stay with the parent firm. Such “ringfencing” can be a contentious process, both politically internally and strategically, since the seller needs to provide enough quality assets to make the unit attractive to many buyers (in hopes competition will boost sale price), but yet the seller might be reluctant to include the “jewels” from which it could still benefit. Moreover, separation impacts the firm as a whole, with the impact reverberating more widely with more and deeper parent-unit interdependences that arise from integration. Each interdependency represents routines and process that will be disrupted and changed (Ethiraj and Levinthal, 2004; Puranam et al., 2006). Furthermore, these interdependencies may flow in both directions (Burgelman, 1996). The parent firm may depend on the unit, such as for the supply of a critical component or for its contributions to co-development or co-branding efforts with other units. The unit may also depend on the parent, such as for the use of IT platforms, HR processes, and external sourcing arrangements, or for access to IP, customer lists, or manufacturing capacity. Accordingly, a key part of the separation is identifying these links and determining how each entity will proceed once they are severed. This can be notoriously challenging; these parent-unit links may be undocumented or unknown, having developed tacitly over decades of deepening integration (Feldman, 2014). It is not uncommon for a selling parent to negotiate Transaction Service Agreements (TSAs) with the buyer, wherein the seller agrees to provide the critical resources the unit needs for a specified period, which could range from weeks to years. These agreements are also designed to facilitate the unit’s (and thus the new parent’s) providing the selling parent with appointed resources. Thus, the separation that is inherent to the divestiture process involves both implementing disconnections and building reconnections between the unit and the parent (Feldman, 2015; Semadeni and Canella, 2011).

Numerous stakeholders are involved in the divestiture process. The divestiture transaction is typically limited to executives from corporate headquarters (especially those from Finance and Business Development) and sometimes leadership from the target unit (it is not uncommon for the latter to be excluded, given that their incentives and feelings about the transaction likely diverge from those of Corporate, cf. Bagwell and Zechner, 1993; Nees, 1981). In sharp contrast, employees in the wider organization often become deeply involved in the separation of the unit from the parent, representing the functions (e.g. Marketing, Accounting, IT, R&D, HR, Legal, Sales) as well as business operations (from the target unit and the other impacted units). External stakeholders, such as suppliers, customers, labor unions, regulators, and politicians from the unit's community, all have vested interests in the outcome of the divestiture process and may actively aim to shape it. Investor blockholders, for example, have been shown to be influential in determining which assets are included in the divestiture and how the deal is structured (Bergh and Sharp, 2015; Hoskisson et al., 1994). For all of these stakeholders, the divestiture process presents significant change and ambiguity. Learning how to manage this uncertainty effectively can greatly impact the performance of the divestiture process. Actively rejecting the reputational stigma of failure or strategic mistake that are often associated with divestiture (Boot, 1992; Hayward and Shimizu, 2006), and replacing it instead with a sense of opportunity for the future for the employees of the target and the remaining units is one alternative (Moschieri, 2011). Transparent and frequent communications throughout the unit and parent firm are another, which can serve to preserve morale and productivity (Gopinath and Becker, 2000). Unfortunately, firms often opt for secrecy during the divestiture process, which has been demonstrated to impair divestiture performance (Nees, 1981). Including and collaborating the target unit managers in the divestiture process from its outset can not only help to align incentives, but it can greatly facilitate separation since the unit managers likely have the best knowledge of interdependencies and their ramifications. Thus, there are many areas and

activities that pose opportunities – both operational and managerial – for firms to gain experience and master in order to potentially enhance its divestiture process performance.

The richness and complexity of the divestiture process makes it particularly challenging to study in a large-sample manner. Studies to date have been qualitative, examining divestitures across a handful of cases or within a single firm. In these studies, divestiture process performance outcomes, when considered, was frequently assessed qualitatively. For example, Gopinath and Becker (2000) evaluated employee trust, commitment, and their perceptions of procedural justice about the divestiture. Moschieri (2001) considered employees' sense of opportunity during the divestiture process. Corley and Gioia (2004) assessed the identity tensions and change overload which emerged among employees during the process. While these approaches do shed important light on the divestiture process, much still remains to be measured and learned. This paper uses six outcome measures – which are directed squarely at the divestiture process – and further applies them in a large sample setting.

## **2.2.4 Hypotheses**

### **2.2.4.1 Completion**

Completion is a fundamental measure of process performance. It is a comprehensive measure, as completion captures the collective performance of all intermediary process activities, yet its binary simplicity makes its outcome easy to assess and communicate. Completion has served as an important outcome measure throughout the strategy literature, for processes as varied as acquisitions, new product launches, initial public offerings, and CEO succession (Dikova et al., 2010; Muehlfeld et al., 2012). In corporate strategy, failed processes (or, even more specifically, failed deals) involve significant financial, operational, and reputational costs. As a result, once firms announce their intentions to engage in such strategic processes, the common goal is to complete them.

The impetus for process completion is especially salient in divestiture for selling firms. Incomplete divestitures may result from situations such as the parent withdrawing the unit from sale due to a lack of interested buyers, or the parent and acquirer failing to agree to final terms. Divestitures that fail to complete are disastrous scenarios for the parent firm, since the units gain “damaged goods” or “passed over” reputations, making subsequent attempts at their divestiture difficult. In order to make another attempt at the unit’s sale, the parent firm may now have to invest in the unit to improve its prospects. Further, the parent’s bargaining position with potential buyers in subsequent negotiations is weakened, not only from the initial failure and the loss of a prospective buyer, but also from a reduction in information asymmetry since due diligence information about the unit from the prior sale process may have diffused. Should the divestiture’s failure to complete be interpreted by outsiders as being due to the selling parent’s making onerous deal demands or being a difficult partner, the number of interested buyers and their willingness to pay may be reduced – for the divestiture at hand and for future divestitures. Taken together, it is clear why divestiture completion is viewed in the trade as an essential divestiture process performance objective (cf. Gole and Hilger, 2008; Kelly, 2002; Smith, 2012).

Interestingly, the use of completion as a process outcome measure highlights a key difference between divestiture and acquisition while reinforcing the relevance of completion as a divestiture process performance metric. In acquisition, the deal completion precedes the complex, challenging work of post-acquisition integration. Post-deal integration involves the wider organization, beyond the senior leaders and business development executives who were involved in executing the mechanics of the transaction. Post-deal integration can be a very taxing time for the firm, and it is where the promised synergies are realized or value is destroyed. In contrast, in divestiture, the burdens of the dis-integration, or separation, of the unit from the parent must occur before the deal is complete. Unit disentanglement unavoidably disrupts firm routines, and requires extensive managerial attention. It typically impacts all functions of the

organization, from IT to HR to Marketing, in addition to the business operations that have interdependencies with the unit. As such, separation is an exacting and expensive process that must conclude before the divestiture completes. In this regard, the cost of deal failure is much higher in divestiture than in acquisition, and completion as a performance measure is especially meaningful for the divestiture process.

Firm divestiture experience connects to completion performance in two important ways. First, more experienced firms should be better able to successfully navigate the divestiture process to drive deal completion. Second, more experienced firms are better positioned to recognize the potential severity of the deleterious effects of divestitures that fail to complete, thereby further fueling the drive towards completion. This leads to the following hypothesis:

*Hypothesis 1: Firm divestiture experience is positively associated with divestiture completion.*

#### **2.2.4.2 Duration**

The duration of the process, or the time elapsed from its start to its completion, is another important process performance measure. The longer the process takes, the longer that managerial and other firm resources are committed to the process and unavailable for other value-generating opportunities. Moreover, longer processes are more susceptible to losses and overruns than shorter ones, since employee turnover and forecasting challenges arise as material and potentially damaging issues to the process over time (Ethiraj et al., 2005). Duration is seen as a key process characteristic throughout the strategic management literature, in such contexts as project management, organizational change, technology development, and M&A (Ethiraj et al., 2005; Homburg and Bucerius, 2006; Luypaert and De Maeseneire, 2015; McCrostle et al., 2015).

Duration is similarly salient for the divestiture process. Given the complexities of divestiture, especially those associated with separating the unit from the parent firm, process

duration can be quite lengthy. In the cases studied by Nees (1981), divestiture durations ranged from twenty months to several years, although divestitures may be more typically expected to last on the order of several months to a year (Baer, 1999). In divestiture, the deal process places the selling firm into a “holding pattern,” in which it is unable to move forward with its strategic plans until the divestiture is complete. This limbo-like period also creates uncertainty for internal stakeholders (e.g. employees, executive talent) and external stakeholders (e.g. customers, suppliers, investors), which can negatively impact firm operations and performance. For example, employees in the unit, fearing for their jobs post-completion, may opt to preempt layoffs by searching for a new job outside of the firm. A critical supplier for the unit may be unwilling to renew a contract with the selling parent since the future owner may try to change its terms. A key customer may be wooed away by competitors who are taking advantage of the uncertainty generated by the divestiture. Moreover, the longer the divestiture drags on, the more likely it is that the competitive value of the business unit’s assets will diminish (Baer, 1999).

There are several other factors that serve to make duration an especially suitable performance measure for divestiture. For one, unlike acquisition, divestiture frees up managerial resources (Vidal and Mitchell, 2015) to pursue other, higher-value activities. The sooner the divestiture process completes, the sooner these liberated resources will be available to the firm. For another, divestitures are often associated with strategic mistakes, so CEOs may be motivated to complete them quickly (Dranikoff et al., 2002; Hayward and Shimizu, 2006). Furthermore, the divestiture process offers the opportunity for potential acquirers to conduct due diligence about the target unit. The more time that the interested buyer has to “look under the hood,” the more opportunity there is for the buyer to identify concerns that could derail the deal or necessitate its renegotiation.

Taken together, these issues encourage firms to aim to complete divestitures as quickly as possible. Indeed, shorter divestiture transactions are viewed as better by industry practitioners

and experts (cf. Clark et al. 2013, Gole and Hilger, 2008; Ross et al., 2012). With more divestiture experience, firms will be better equipped to identify shortcuts and avoid time sinks as the process unfolds, expediting the divestiture process accordingly. As a performance outcome, the degree of divestiture duration performance should be interpreted as being measured on a reverse scale, with shorter divestiture durations reflecting better performance outcomes. With that approach in mind, these factors lead to the following hypothesis:

*Hypothesis 2: Firm divestiture experience is positively associated with divestiture duration.*

#### **2.2.4.3 Financial gain on sale**

Financially-based performance is also a key process outcome in strategic management, although it is not always easy to measure. While metrics like process revenues and profitability are natural candidates, it can sometimes be challenging to obtain these results for processes that have an indirect impact on the bottom line, such as employee corporate training initiatives, corporate branding campaigns, and R&D. In other cases, even though the process-specific financials may be available, it can be difficult to translate them to firm financial impact, due to factors like corporate overhead costs (Ethiraj et al., 2005). As a result, the ways in which process financial performance may be meaningfully assessed varies widely throughout the strategic management literature, and may be specific to the process of interest.

In the case of corporate transactions like divestitures and acquisitions, understanding how much money the firm made on the deal is valuable, and it tracks directly to the firm's execution of the process. In acquisitions of public firms, the bid price may be translated into a share premium since the target firm has been valued by the financial market. Although such a valuation is not available for divestitures, the financial gain on sale provides a reasonable alternative (Kaplan and Weisbach, 1992). In divestiture, the financial gain (or loss) on sale is an



audited number that the firm includes in its regulatory filings. Gain on sale reflects the difference between the unit's sale price and its fair market value. Thus, gain on sale represents the price premium associated with the divestiture. The higher the premium, the more value that the firm was able to capture throughout the divestiture process and the better that the firm was able to preserve (or even augment) the value of the unit during the process. Accordingly, gain on sale is a process-level outcome financial performance measure, not a firm-level one.

With more divestiture experience, firms have more opportunities to learn how to maximize their returns on divestiture. In so doing, firms may hone capabilities for such activities as negotiating the transaction terms, identifying and pursuing potential acquirers that would value the unit most highly, and managing the transparency and type of information disclosed during due diligence. More divestiture experience should benefit the firm's performance of these activities, which leads to the following hypothesis:

*Hypothesis 3: Firm divestiture experience is positively associated with the financial gain on sale pertaining to the divestiture.*

#### **2.2.4.4 Announcement date-based CAR**

A firm's cumulative abnormal return (CAR) around an event date of interest is a commonly used market-based performance measure in the corporate strategy context (Alexander et al., 1984; Brauer, 2006; Feldman et al., 2014; Jain, 1985; MacKinlay, 1997). As an outcome descriptor, CAR has several appealing features. First, it is immediate. Many operational and financial indicators of performance, such as market share changes, profitability, and return on invested capital, are lagging indicators. Several quarters or even several years may need to pass before the impact of the action or event will be detectable in the firm's results. CAR, on the other hand, is nearly instantaneously available, as it requires only the firm's security prices within the event window in conjunction with the firm's previous returns and market returns. Second, CAR

is a financial measure. It can be challenging to monetarily quantify the impact of a firm's particular strategic action. CAR provides a readily accessible measure of an action's economic impact on the firm through the corresponding change in the firm's market value. Third, CAR is market-based. Here, the benefit is rooted in the idea that the rationality of the market will provide an arm's length assessment of the firm's action.

Cumulative abnormal returns are especially well suited for characterizing firm process performance since they may be determined at numerous junctures along the process trajectory. For example, in the case of the new product development process, the market's reaction to the firm's announcement of its plan to develop the new product, to the firm's unveiling of the prototype, to the product's regulatory approval, and to product launch could each be measured (Sood and Tellis, 2009; Sorescu et al., 2007). The CAR measurements provide a real-time market evaluation of how well the firm has been executing the different stages of the process.

Regarding the divestiture process, the firm's announcement of its intent to divest a business unit is a major event. The announcement date marks the start of the divestiture process, after which the selling firm begins to disentangle and separate the unit from its operations. The firm's actions at the start of the process help determine how well it is positioned to execute those that remain. These initial, stage-setting activities could include the likes of the disclosure of a targeted sale price, the engagement of outside experts (e.g. investment banks, consulting firms), communication initiatives about the divestiture to stakeholders, and unit "ringfencing" (i.e. delineating which assets and resources will be included in the sale). The importance of announcement date is considerable in the divestiture process – since the costs of terminating a divestiture are substantive for the firm, the announcement signals the firm's genuine commitment to the divestiture. Consequences to reversal of other corporate strategic intentions, such as plans to engage in an alliance or merger, are not as severe as in the divestiture case, and thus the firm's commitment to the process at the time of announcement may be weaker in those cases versus that

of divestiture. Announcement date is such a significant event in the divestiture process (and with data that are readily available for public firms) that announcement date-based CAR has been a dominant measure of divestiture performance in the strategy literature to date (Bergh et al., 2008; Colak and Whited, 2007; Comment and Jarell, 1995; Feldman, 2015; Hite and Owers, 1983, John and Ofek, 1995).

Announcement date-based CAR therefore captures the market's assessment of how well the firm has initiated the divestiture process, as well as the market's expectation as to how well the divestiture process will unfold. With more divestiture experience, firms have more opportunities to learn how to "kick-off" the divestiture process effectively and set the stage for ensuring process success. Further, with the firm's having engaged in more divestitures, the markets have had more chances to observe the firm during the divestiture process. Announcement-date CAR will thus reflect the market's expectations given its assessment of the firm's past divestiture experience. These factors lead to the following hypothesis:

*Hypothesis 4: Firm divestiture experience is positively associated with divestiture announcement date-based cumulative abnormal return.*

#### **2.2.4.5 Effective date-based CAR**

The effective date of the divestiture – the date on which the divestiture is legally recorded as being complete – is another critical event in the divestiture process (Hite and Owers, 1983; Vijn, 1994). As announcement date marks the start of the divestiture process, effective date marks its end. Examining the firm's cumulative abnormal return around the effective date of the process is especially meaningful for divestiture, since the unit must be fully separated from the selling parent firm upon effective date. Thus, the activities of the divestiture process are finished and final.

This sharp clarity around process completion surfaces an important distinction between the acquisition and divestiture processes, which in turn underscores the appropriateness of using effective date-based CAR as a divestiture process characteristic. The effective date of an acquisition reflects only the closure of the financial transaction. It is the point where the firm's CEO, CFO, and corporate development executives pass the baton to the operational leaders in the company, who must then begin the heavy lifting of post-acquisition integration. As such, the primary opportunities for value capture (and loss) in acquisition occur after effective date, whereas in divestiture they arise beforehand. Thus, effective date-based CAR captures the market's assessment of how well the firm executed – and realized the value creation opportunities presented by -- the divestiture process in its entirety. CAR based on divestiture effective date is therefore another useful measure of market-based divestiture process performance that complements, but is distinct from, CAR based on divestiture announcement date. Prior divestiture experience will alert firms to the possible sources and sinks of value generation that may emerge throughout the divestiture process, and additionally prepare firms to address them. Hence, firms with more divestiture experience should execute the divestiture process more successfully, which the financial markets will accordingly recognize and reward. This reasoning leads to the following hypothesis:

*Hypothesis 5: Firm divestiture experience is positively associated with divestiture effective date-based cumulative abnormal return.*

#### **2.2.4.6 Withdrawn date-based CAR**

The termination of a divestiture process that was underway is a significant, albeit unwelcome, event in the divestiture process. It is formally recorded as the “withdrawn date,” and could be precipitated by a number of causes. For example, the selling firm may cease its search for a buyer, contentious negotiations may cause the firm to remove the unit from the market, or

an intended acquirer may reconsider and bow out of the purchase. Irrespective of the reason, divestiture withdrawal typically incurs notable costs for the selling firm. Unit-parent separation is disruptive and taxing, and is often initiated upon the parent's decision to divest. Early termination thus implies that not only were resources expended in the separation procedures, but the suspended separation also means that the parent firm must now "reattach" its severed operations with the unit or devise ways to function with partially detached operations until the next attempt at divestiture. Additionally, the divestiture process impacts stakeholders, both inside and outside of the firm. The withdrawal of the divestiture does not necessarily mean that the uncertainty it created for stakeholders will dissipate. Employees (both in the target unit and in the rest of the firm) may feel that another attempt at divestiture is imminent and look for more stable opportunities elsewhere. Stakeholders like suppliers and alliance partners may feel similarly, and adjust their dealings with the firm accordingly. In this regard, it is important to emphasize that the meaningfulness of withdrawal date is heightened for the divestiture process, beyond what is expected for the effective dates of other corporate strategic actions. In acquisitions, firms can more readily "test the waters" and pull out of a deal, since firm operations are not impacted until after the acquisition closes. Overall, withdrawal is far from costless for the firm, and the firm's CAR around the withdrawal date is a powerful way of assessing its financial impact on the firm (Hite et al., 1987; Lee, 1992; Luo, 2005).

Given these consequences, more experienced firms are expected to avoid deal withdrawal, which is essentially a failed divestiture process. The financial markets are not expecting an experienced firm to err in the process and withdraw, and thus will likewise respond more negatively to withdrawals by experienced firms. Further, the process problems that led to withdrawal may be more catastrophic for experienced firms, whose learning biases will more entrenched than in firms with less experience (Levinthal and March, 1993; Levitt and March, 1988). The withdrawn date-based CAR will capture the severity of the disconnect between the

divestiture process performance that the market expected of an experienced firm and their actual performance. This leads to the following hypothesis:

*Hypothesis 6: Firm divestiture experience is negatively associated with divestiture withdrawn date-based cumulative abnormal return.*

## **2.3 METHODOLOGY**

### **2.3.1 Data & Sample**

This paper uses a cross-industry sample of divestitures announced by publicly-traded, U.S.-headquartered parent firms from 1985 to 2010. By definition, all divestitures represent a loss of majority control in the target unit. The business units involved in these divestiture transactions are not subject to any geographic constraints; this sample therefore includes cross-border transactions. Divestitures were identified using the Thomson ONE M&A database, which also provided divestiture transaction characteristics. The first year of divestiture data availability is 1985. The year 2010 was selected as the endpoint of the sample to ensure that the divestitures announced in 2010 had sufficient time to complete in the remaining years hence. An important advantage of this cross-industry and cross-border sample is its inherent generalizability. Moreover, the long timespan covered by the data sample further assists with generalizability, as there may be macroeconomic or other environmental factors that impact firms' propensity to divest during a particular time period.

Since permanent firm identifiers for tracking parent firms are not available in the Thomson M&A database, the historical cusip data from the Center for Research in Security Prices (CRSP) was used in conjunction with the most recent parent firm cusips from Thomson M&A to assign consistent firm identifiers in the divestiture transaction data. This also facilitated the connection between the transaction-level data and the firm-level data in Compustat. Compustat was a key source of firm financial and other corporate data. CRSP also provided

parent firm stock return data. Additional firm and divestiture transaction data was further hand-collected from regulatory filings, including the 10-K, 10-Q, and 8-K reports.

The *Divestiture Experience* variable (described subsequently in the “Independent Variables” section) was constructed using the entire universe of 45,979 divestitures. These divestiture transactions were associated with 10,552 unique parent firms. Firm-level control variables were available for approximately forty thousand divestitures; their identification required establishing reliable connections across the three databases. The divestiture deal price was available for 46% of divestitures, further reducing the sample by approximately twenty-four thousand observations.<sup>1</sup> For one of the dependent variables, the *Gain-to-Assets* ratio (described in the “Dependent Variables” section), gain on sale data were hand-collected for the over eight hundred transactions in 2005 for which a deal price was available.

### **2.3.2 Variables**

This research is focused on the divestiture process, and how firm divestiture experience may be related to divestiture process performance. Accordingly, there are six principal dependent variables that measure divestiture performance and the primary independent variable measures firm divestiture experience. The control variables capture a number of firm and unit characteristics to address possible alternative explanations. Variables specific to the coarsened exact matching models and the Heckman selection model are later described in their corresponding discussion in the “Analyses and Results” section.

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<sup>1</sup> T-tests using a variety of firm characteristics were performed to successfully confirm that there were no significant differences between those firms which had divestitures with a deal price and those firms which had divestitures for which no deal price was available.

### 2.3.2.1 Dependent variables

The outcome of most interest in this paper is divestiture process performance, which is measured in six ways. *Completion* is an indicator variable equal to one if the divestiture transaction was completed, and equal to zero if it was incomplete. *Duration* measures the length of time of the divestiture transaction, from the announcement date to the close date of the transaction, in units of days. *Gain-to-Assets* is a ratio that is a financially-based performance variable, calculated as the gain (or loss) on sale from the divestiture divided by the parent firm's total assets. The gain on the divestiture sale may be interpreted as the "transaction premium," as it reflects the difference between the unit's sale price and its fair market value. *Announcement Date CAR*, *Effective Date CAR*, and *Withdrawn Date CAR* each reflect the firm's cumulative abnormal returns (CAR), but are each based upon different dates for specific events in the divestiture process: the date that the divestiture was publicly announced, the date that the divestiture deal became complete and effective, and the date that an incomplete divestiture was formally withdrawn from the divestiture process, respectively. Event studies were used to calculate these three CAR-based variables through a multi-step process performed for each divestiture and for each event date of interest. For each divestiture, the announcement date, the effective date (if applicable), and the withdrawn date (if applicable) were collected from the Thomson M&A database. Firm stock return data were obtained in CRSP.

The first step in calculating the firm's cumulative abnormal returns associated with a particular event is to estimate the firm's expected returns. To do so, in this paper, the firm's daily stock returns and the market's daily returns were collected for a 250-day period (the estimation window) that began 800 days prior to the event date (i.e. from -800 to -551 days before the event). The firm's expected, or normal, returns were then predicted from its daily stock returns and the market returns within the estimation window. The second step is to determine the firm's actual returns around the event date. Here, actual returns were collected for a three-day window



around the event (i.e. spanning from one day before to one day after the event, -1 to +1). In the third step, the firm's abnormal returns are found by subtracting the firm's expected returns from its actual returns. This was done for each day in the three-day event window. Lastly, the abnormal returns for the event window are summed to determine the firm's cumulative abnormal returns corresponding to the event. This procedure was repeated for each divestiture for each event of interest (divestiture announcement, effective, withdrawn), using estimation ([-800, -551]) and event ([-1, +1]) windows corresponding to each event date (Anand and Singh, 1997; Feldman, Amit and Villalonga, 2014).<sup>2</sup>

### 2.3.2.2 Independent variables

The variable *Divestiture Experience* measures the firm's cumulative divestiture experience. To calculate this variable, the count of the number of divestiture transactions undertaken by the parent firm was first determined, and was then depreciated on a linear basis over the twenty-six years of the sample (Barkema et al., 1996; Ingram and Baum, 1997). More recent experience may be more relevant and accessible by the firm than distant experience, and thus more recent experience may play a larger role in divestiture transaction performance. Moreover, potentially fading organizational memories may impair the efficacy of more distant learnings (Levitt and March, 1988). Both complete and incomplete divestitures are included in the calculation, as firms still have the opportunity to learn from the divestiture process, irrespective of the performance outcome (Madsen and Desai, 2010).<sup>3</sup>

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<sup>2</sup> Conclusions are robust to the use of an alternative 150-day estimation window [-515, -366] for the firm's expected returns. Conclusions are also robust to the use of numerous alternative event windows (i.e. [-1, 0], [0, +1], [-2, +2], [-3, +3]) with both estimation windows.

<sup>3</sup> Robustness checks were performed with multiple alternative operationalizations for *Divestiture Experience*. For example, the count of divestiture experience was depreciated using different discount factors (i.e. the square root and the square of the age of the divestiture experience, causing experience to

### 2.3.2.3 Control variables

There are two sets of control variables: the first set is focused strictly on the parent firm, and the second set pertains to the divested unit.

The first set of variables controlled for a number of important characteristics of the parent firm, concerning its size, financial health, management efficiency, and diversification. The components of these variables are all lagged by one year prior to the year of the divestiture announcement, to ensure a properly representative picture of the firm at the start of the divestiture process.

The variable  $\ln(\text{Total Assets})$ , with total assets in units of \$Million, was used to control for the size of the parent firm. Larger firms have more resources than smaller ones; with more operations comes more opportunity to engage in divestiture.

Three variables were used to control for the state of the firm's financial health: *Negative Net Income*, *Leverage*, and *Tobin's q*. *Negative Net Income*, an indicator variable, is set equal to one if the firm reports negative net income, and is zero otherwise. *Leverage*, which varies from zero to one, is the ratio of the firm's total debt to the sum of the firm's total debt and its market capitalization. Higher values of *Leverage* represent greater indebtedness. *Tobin's q* is the market value of parent's assets divided by the book value of its assets. The market value of the assets is calculated as the sum of the market capitalization of the firm's equity and the book value of its debt. Thus, *Tobin's q* is calculated as  $((\text{Common Shares Outstanding} * \text{Close Price}) + (\text{Current Debt} + \text{Long Term Debt})) / (\text{Total Assets})$ . Close price is the share price at the end of the last trading day of firm's fiscal calendar. Firms with constrained financial resources, such as indebted or profitless firms, may have a greater propensity to divest as means to generate cash for the firm.

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depreciate more slowly and more rapidly, respectively, than in the linear case), the experience count was not depreciated at all, and only completed divestitures were included in the experience count. Conclusions are robust to these alternatives.

*Return on Equity* was used to control for management efficiency. It is the ratio of the firm's net income to the shareholders' equity, calculated as (Net Income) / (Total Assets-Total Liabilities). Poor managerial efficiency, or low values of *Return on Equity*, may serve as an impetus for the firm to engage in divestiture as a means to improve its return.

Firm diversification was controlled for by using the sales-based *Herfindahl Index*. The *Herfindahl Index* is calculated as the sum of  $P_i$  squared, where  $P_i$  is the proportion of a firm's sales in segment  $i$ . As the index approaches 1, the more the firm's sales are concentrated within fewer business segments. Highly diversified firms, or those having small *Herfindahl Index* values, may see divestiture as a means to refocus their businesses and potentially improve performance (cf. Berger and Ofek, 1999; John and Ofek, 1995; Markides, 1992).

The second set of control variables characterized the relationship between the business unit and the parent firm. *Unit-Parent Size Ratio* was calculated as the divestiture transaction price divided by the market value of the parent firm. Thus, market-based financial measures are being used to capture unit and parent size. Since *Unit-Parent Size Ratio* had some outlying observations on the right hand side of its distribution, the variable was winsorized at the five percent level to account for these observations and to confirm that they were not biasing the results. *Unit-Parent Geographic Relatedness* is an indicator variable set equal to 1 if the parent firm's headquarters and the unit are both located in the same country, and zero otherwise. *Unit-Parent Industrial Relatedness* is an indicator variable set equal to 1 if the parent firm and the unit share the same 3-digit SIC code, and zero otherwise. Parent firms may have a greater propensity to divest units that are smaller or less related (be it on an geographic or industry basis) as they may be easier to separate from the parent firm.

Lastly, the final control variable category considers the parent firm's divestiture operations. *Divestiture Program* is an indicator variable set equal to one if the parent firm has made at least three divestiture announcements within the last three years. Firms engaged in a

divestiture program, reflected by a number of divestitures occurring in rapid succession, may have a greater propensity to divest in order to finish all divestiture activity within a defined period (Brauer and Schimmer, 2010) to avoid the potential negative reputational effects that are sometimes associated with divestiture (Boot, 1992; Hayward and Shimizu, 2006; Dranikoff et al., 2002).

## 2.4 ANALYSES AND RESULTS

### 2.4.1 Descriptive Statistics

Descriptive statistics and the correlation matrix for the principal variables used in the analysis are provided in Table 1. The correlations in Table 1 and the variance inflation factors (mean VIF of 1.38 and individual VIFs of 2.64 or below) do not raise any concerns about multicollinearity.<sup>4</sup> The descriptive statistics for the independent variable, *Divestiture Experience*, show that firms on average accumulated, on a linearly depreciated basis, divestiture experience corresponding to seven divestiture transactions (completed or not) during the 1985-2010 period. Stated in terms of an undepreciated count, firms engaged in a total of eighteen divestiture transactions on average over the period.

-----Insert Table 1 here-----

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<sup>4</sup> In Table 1, there are several cases of missing correlations between dependent variables. This is expected whenever one of the variables reflects only a single value (in this case, always zero or always one) for the observations for which the correlations are calculated. The resultant relationship between such variables is indeterminate since the constant variable's zero-value standard deviation (SD) in the denominator of  $\text{cov}(x,y)/[\text{SD}(x)*\text{SD}(y)]$  would render the division by zero. For example, a divestiture by definition cannot be both completed and withdrawn. Therefore, *Completion* must always have a value of zero when a value of *Withdrawn Date CAR* is available and their correlation is thus indeterminate.

Turning to the dependent variables, the descriptive statistics show that seventy-seven percent of divestiture transactions completed and that these took, on average, fifty-one days to complete. Given the adverse consequences associated with incomplete transactions for firms, this completion rate is unsurprising. On average, parent firms see a gain (rather than a loss) on sale for a divestiture, corresponding to a mean Gain-to-Assets of 2.8%. The results for the CAR-based divestiture performance variables show that the market responds favorably to both the announcement and the close of a divestiture transaction (with an average *Announcement Date CAR* of 0.9% and *Effective Date CAR* of 0.4%, respectively). The fact that the average CAR is higher for the initiation of the divestiture process than its closure may suggest that the market has already “priced in” some of the value of the divestiture by the effective date, but the fact that there is a rise in *Effective Date CAR* helps to lend support to the idea that the market does evaluate the firm’s management of the divestiture process and also places weight on its completion. That the average *Withdrawn Date CAR* is negative (at -1.0%) evidences that firms do indeed pay a penalty for incomplete divestitures.<sup>5</sup> To further validate these results, *Announcement Date CAR*, *Effective Date CAR*, and *Withdrawn Date CAR* were tested and each was found to be statistically different from zero at the one percent level of significance.

Regarding the correlations between *Divestiture Experience* and each of the dependent variables, one of the relationships (with *Announcement Date CAR*) is significant at the one percent level, one of the relationships (with *Duration*) is significant at the five percent level, and

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<sup>5</sup> As noted earlier, these average CAR values were calculated using a 250-day estimation window with a 3-day event window ([-800, -551] and [-1, +1]) in the event study procedure. The average positive CAR results (for announcement date and effective date) and negative CAR results (for withdrawn date) presented here are consistent across the entire set of estimation-event window combinations examined (using 2 estimation windows and 5 event windows, as described in the Variables section). Average CAR results ranged from 0.8% to 1.1% for *Announcement Date CAR*, from 0.3% to 0.7% for *Effective Date CAR*, and from -1.3% to -0.2% for *Withdrawn Date CAR*.

two of the relationships (with *Completion* and with *Effective Date CAR*) are significant at the ten percent level. Neither the correlation between *Divestiture Experience* and *Gain-to-Assets* nor between *Divestiture Experience* and *Gain-to-Assets* is significant. Moreover, the signs of each of these relationships are opposite to the directions predicted in the hypotheses. This beautifully illustrates the complexity of the experience-performance relationship in corporate strategic activities, and foreshadows the importance of appropriate model specification, as will described in the sections that follow.

## 2.4.2 Primary Model Specification

The primary regression model used to test the hypotheses has the following form:

$$(Y_{ij})_k = \beta_{k0} + \beta_{k1} \text{Divestiture Experience}_{ij} + \sum_{n=2}^{N(k)} (\beta_{kn} X_{ijn}) + (\epsilon_{ij})_k$$

Wherein:

Y = divestiture performance	i = divestiture
X = control variable	j = parent firm
$\beta$ = constant coefficient	k = performance metric index
$\epsilon$ = error term	n = control variable summation index

The divestiture performance variable Y has six alternatives (*Completion*, *Duration*, *Gain-to-Assets*, *Announcement Date CAR*, *Effective Date CAR*, *Withdrawn Date CAR*), and therefore the performance metric index k has a range of one to six. The models for *Completion*, *Duration*, and *Gain-to-Assets* include all ten control variables described earlier. The models for the three CAR-based performance variables use seven of the control variables. Since CAR is based on market performance, the market-based controls (*Leverage*, *Tobin's q*, and *Unit-Parent Size Ratio*) had to be excluded from the models that have a CAR-based dependent variable.

Ordinary least squares (OLS) regression is used to estimate the models for each of the divestiture performance variables. Results are presented in Table 2; Table 3 provides the same

regression results but with standardized coefficients.<sup>6</sup> In all regressions, industry fixed effects (based on the parent firm's primary 2-digit SIC code) are included to control for all stable industry characteristics (both observable and unobservable) that may drive divestiture process performance. Year fixed effects are also used throughout, except in the regression for *Gain-to-Assets* (year fixed effects are not needed in the regressions for *Gain-to-Assets* since all observations correspond to divestitures announced in 2005). Year fixed effects are included to control for macroeconomic conditions that may influence divestiture performance results.<sup>7</sup>

Lastly, coarsened exact matching procedures are used to address non-random selection in the divestiture decision, and a two-stage Heckman selection model is used to control for a possible selection issue with *Gain-to-Assets*. These are discussed in depth in the sections that follow.

### **2.4.3 The Choice to Divest**

This paper explores the potential relationship between firm divestiture experience and performance. Embedded in this research question, however, is the firm's decision to engage in divestiture. Even further, not only is there is the firm's decision to divest, but there is also the

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<sup>6</sup> As a test of robustness, logit models (which are appropriate for use with dichotomous outcome variables) were used to analyze *Completion*. Furthermore, as another test of robustness, negative binomial regression models (which help to address overdispersion in count outcome variables) were used to analyze *Duration*. In both cases, results were consistent with those obtained from the OLS regressions. Results for these alternative regression models are presented in the Appendix in Table 5 and Table 6, respectively.

<sup>7</sup> While firm fixed effects would provide the strongest identification, this approach causes firms that have divested only once (corresponding to 4095 observations) to be dropped from the analysis. Additionally, for the regression for *Gain-to-Assets*, firms which engaged in only one divestiture in 2005 (the year for which *Gain-to-Assets* data is available) would similarly be dropped from the analysis. Furthermore, for the regression for *Completion*, firms which had no variation in their completion performance (i.e. all completed divestitures or all incomplete divestitures) would also be dropped from the analysis. As an alternative, robust standard errors clustered by firm are used with all regressions. This serves to help address the potential for systemic firm idiosyncrasies that may be influencing divestiture process performance.

firm's decision to divest a particular business unit. There may be fundamental differences in characteristics between those firms that choose to make such a divestiture decision and those firms that do not. Without taking steps to address this issue of non-random selection in the divestiture decision, results from regressions that examine the effects of this decision – here, the effects of firm divestiture experience on performance – may be biased.

In this paper, coarsened exact matching procedures were used to deal with the problem of non-random selection in the divestiture decision (Iacus, King, and Porro, 2012). Coarsened exact matching involves a two-stage regression, wherein the first stage regression model estimates the likelihood of treatment (here, making the decision to divest a particular business unit) and the second stage regression model estimates the effect of treatment on the outcome (here, divestiture performance). The power of this approach lies in the first stage's matching of treated observations (firms that made the decision to divest) with control observations (firms that did not make the decision to divest) based upon the observable characteristics of the observations (firm characteristics, which are the independent variables in the first stage model). The matching process avoids the rigidity of exact one-to-one matching by coarsening the values of each variable into strata. A treated-control pair qualifies as a match when the values of each of their characteristics are found in the same strata ranges. Only the matched pairs of treated and control observations are to be used in the second stage regression.

The second stage regression poses a special challenge in this paper. As previously discussed, the performance variables of focus in this paper pertain to the divestiture process. These variables are meaningful for firms that have made the decision to divest a particular business unit – the treated observations described above. These variables are not, however, available for the control observations since these firms did not make the decision to divest, and therefore they did not engage in the divestiture process. By definition, measuring divestiture process performance is not applicable for the non-divesting control group. To circumvent this



issue, the approach taken in this paper fully exploits the power of the coarsening in the first stage regression to identify those treated observations that have strong matches with control observations. Those treated observations alone were then used in the second stage regression.

The first stage probit regression estimated the propensity of a firm to divest a particular business unit (i.e. one that is operating in a particular industry) in a certain year. The dependent variable was *Opportunity Taken*, which is a binary variable that is set equal to one if the firm had a business segment operating in a certain industry in a certain year and also decided to divest it. It is equal to zero if the firm had a business segment operating in a certain industry in a certain year (thus it had the opportunity to make a divestiture in this industry), but did not make any divestitures in that segment's industry. Business segment data was obtained from Compustat. Strict standards for coarsening were imposed on a variety of firm characteristics, including assets, revenues, net income, and leverage. Exact matches were required for year (of divestiture announcement) and business unit industry (at the 2-digit SIC level). The strata bands for the continuous firm characteristics variables were set on a percentile basis (i.e. minimum-p1-p5-p25-p50-p75-p95-p99-maximum). This stringency helped to ensure sharp, high quality matches. The treated observations that were members of treated-control matched pairs were then used in the second stage regression, which estimates divestiture performance. This regression was repeated for each of the six divestiture performance variables. Results were consistent with those in Table 2 and conclusions were robust to controlling for non-random selection in the firm's decision to divest a particular business unit.

As another test of robustness, the coarsened exact matching process was repeated to address the issue of non-random selection stemming from the firm's decision to divest in a particular year. This non-random selection issue (the firm's choice to divest at all in a particular year) is more general than the discussed above (the firm's choice to divest a business unit operating in a particular industry in a particular year). Here, the dependent variable used was

*Divested*, which is set equal to one if the firm divested in a particular year, and is zero otherwise. The variables used in the first stage regression model are the same with the exception of the industry variable, which here is the 2-digit SIC code of the parent firm. The coarsening and regression procedures were the same as in the case above. Results were again consistent with those in Table 2 and conclusions robust to controlling for non-random selection in the firm's choice to divest.

#### **2.4.4 Heckman Selection Model**

The divestiture performance variable *Gain-to-Assets* uses the gain (or loss) on sale reported by the firm in the regulatory filings it submits to the Securities and Exchange Commission. The firm has some flexibility in terms of how it reports the gain on sale. For example, in cases where the firm is reporting on several divestitures, it may choose to combine the results and report one overall gain on sale number. The firm may also deem the gain on sale results to be immaterial, and not report them accordingly. This sets the stage for a potential selection problem, which is addressed in this paper through a Heckman selection model.

The first stage of the two-stage Heckman selection model predicts the firm's disclosure of the divestiture's gain on sale. The dependent variable (or treatment variable) used in this probit regression is *Gain Disclosed*, which is a binary variable that is set equal to one if the gain (or loss) on sale for the divestiture was disclosed in the firm's regulatory filings and is zero otherwise. The second stage of the model estimates the OLS regression with *Gain-to-Assets* as the dependent variable. The first stage model requires at least one instrumental variable that is correlated with the likelihood that a firm reports the divestiture's gain on sale, but is uncorrelated with the actual *Gain-to-Assets* ratio that is realized with the divestiture. Here, two instrumental variables are used. The first instrument is *Segment Count*, which is equal to the number of the firm's business segments reported by the firm in the year prior to the divestiture announcement,

as recorded in Compustat. Firms with numerous business segments necessarily have to report on the details of these businesses; thus these firms naturally disclose more information than do firms with fewer segments. Moreover, more diversified firms (i.e. those with more business segments) are more likely to engage in divestiture than those that are less diversified (Comment and Jarrell, 1995; Markides, 1992, 1995). Thus, firms with more segments are high-disclosure firms relative to firms with fewer segments, and it is reasonable to expect that such “high disclosure” firms would be more likely to explicitly report the gain on sale associated with their divestitures. Therefore, as *Segment Count* increases, the likelihood that the firm will report the gain on sale also increases. However, there is no reason to expect that *Segment Count* should be correlated with the divestiture’s gain on sale in the *Gain-to-Assets* ratio.

The second instrument is *Restatements*. This binary variable has a value of one when the parent firm operates in an industry that is characterized as having firms that issue a high number of restatements of their financial reports filed with the SEC, and is zero otherwise. The industry-based restatement data is taken from Scholz (2008, 2014). Relative to other industries, the rate at which the firms in a particular industry restate their financial statements remains fairly constant across time. Restatements considered are those that were due to troublesome issues that rendered the firm’s financials unreliable; restatements due to reporting events like pooling-of-interest mergers and the adoption of new accounting standards are excluded.<sup>8</sup> Firms which are subject to such restatement requirements are more likely to be aggressive in their accounting approaches than others. Thus, firms that are members of high restatement industries would be less likely to report the gain on sale associated with their divestitures than those which are not. . However, whether or not the firm is a member of a high-disclosure industry has no bearing on the gain (or

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<sup>8</sup> The types of restatements considered here are damaging events for the firm, as they have been shown to impair share price (average CAR of -9 percent) and increase the firm’s cost of equity capital (relative increases averaging between 7 and 19 percent) (Hribar and Jenkins, 2004; Palmorese et al., 2004).

loss) realized on the divestiture sale itself, and therefore *Restatements* is not expected to be correlated with *Gain-to-Assets*. The results for the Heckman selection model are presented in Table 4 and are discussed in the next section.

#### 2.4.5 Hypothesis Testing

Table 2 presents the OLS regression results for the *Completion*, *Duration*, *Gain-to-Assets Announcement Date CAR*, *Effective Date CAR*, and *Withdrawn Date CAR* divestiture process performance variables. There are three models that are associated with each outcome variable: a “baseline” model, which includes just the independent variable *Divestiture Experience*; a “controls” model, which includes only the control variables; and a full model, which includes both *Divestiture Experience* and the control variables, that is used for hypothesis testing. These same regression results are presented using standardized coefficients in Table 3.

It bears repeating that, for the *Duration* performance regressions (Models 4, 5, 6), a decrease in the duration of the divestiture process is interpreted as a positive performance result, since firms typically want these divestiture transactions to close as quickly as possible. For the other five performance variables, positive increases (e.g. a larger Announcement Date CAR) are viewed as beneficial improvements in performance.

Taken together, the baseline model results for each of the performance variables (Models 1, 4, 7, 10, 13, 16) offer only inconsistent support for the predicted divestiture experience-performance relationships. The coefficient for *Divestiture Experience* is significant for three of the six cases (*Gain-to-Assets*,  $p < 0.5$ ; *Announcement Date CAR*,  $p < 0.01$ ; and *Effective Date CAR*,  $p < 0.01$ ), but the sign of the *Divestiture Experience* coefficient in the model for *Gain-to-Assets* (Model 7) is negative -- implying that additional divestiture experience accumulated by the firm would actually reduce its gain on sale performance (which runs counter to the predicted relationship). Similar trends of unevenness (and contradictions) in support were seen in the

experience-performance correlations of Table 1. In light of the inconsistent findings relating experience to performance in the extant strategic management literature on corporate scope, these baseline results are not especially surprising.

Turning to the hypotheses, Model 3 of Table 2 serves to test Hypothesis 1 (H1), which predicts that firm divestiture experience is positively associated with divestiture completion. The coefficient for *Divestiture Experience* is significant ( $p < 0.05$ ) and negative, and indicates that a one-unit increase in *Divestiture Experience* corresponds to a -0.01 percent decrease in *Completion*. This suggests that, as the firm accumulates direct divestiture experience, its divestiture completion performance is actually impaired – or, stated more informally, the results show that divestiture experience “hurts” divestiture completion performance. Interpreting the coefficient in terms of standard deviations (Model 1 of Table 3), a one-standard deviation increase in *Divestiture Experience* results, on average, in a decrease in *Completion* of 0.037 standard deviations. Thus, divestiture experience is negatively associated with divestiture completion performance, and H1 is not supported.<sup>9</sup>

Hypothesis 2 (H2) predicts that firm divestiture experience is positively associated with divestiture duration. The results of Model 6, which tests H2, indicate that a 1-unit increase in the coefficient for *Divestiture Experience* corresponds to a decrease of 0.24 days ( $p < 0.01$ ) in divestiture duration. Stated in terms of the standardized coefficients in Model 6 of Table 3, a one-standard deviation increase in *Divestiture Experience* results, on average, in a decrease in *Duration* of 0.023 standard deviations. A shortened divestiture duration is interpreted as a

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<sup>9</sup> As previously noted, logistic regression was used to estimate *Completion* as a test of robustness. These results, presented in Table 5, are consistent with the OLS results.

performance improvement. Therefore, H2 is supported, with divestiture experience being positively associated with divestiture duration.<sup>10</sup>

Hypothesis 3 (H3) predicts that firm divestiture experience is positively associated with the financial gain on sale pertaining to the divestiture. Model 9, which can be used to test H3, shows that a one-unit increase in *Divestiture Experience* results in a 0.2 percent ( $p < 0.05$ ) increase in *Gain-to-Assets*. While this supports H3, this evidence should be interpreted cautiously since the results of Model 9 may be biased due to non-random selection in the firm's decision to disclose the gain on sale. This potential bias may be addressed by using a Heckman selection model, which is presented in Table 4. This is a two-stage model, where the first stage regression (Model 1) predicts disclosure of the gain on sale (used in the calculation of *Gain-to-Assets*), and the second stage estimates the OLS regression with *Gain-to-Assets* as the dependent variable (Model 2).

The first point of interest in the results of Table 4 is the significance of the two instruments, *Segment Count* and *Restatements*, in Model 1. Moreover, the coefficient of *Segment Count* is positive (indicating that an increase in *Segment Count* corresponds to an increase in the likelihood of *Gain Disclosed*), which is as expected from the argument discussed above. The coefficient of *Restatements* is negative (indicating that firms that are members of high restatement industries are less likely to disclose the gain on sale than those firms which are not members of high restatement industries), which is also as expected. Additionally, the combination of these two instruments passes the overidentification test ( $\chi^2 = 10.54$  with  $p < 0.01$ ), further supporting the validity of the instruments. Taken together, these pieces of evidence serve to help confirm the strength and appropriateness of *Segment Count* and *Restatements* as instrumental variables in this case. The second major point of interest is that the coefficient of *Divestiture Experience* retains

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<sup>10</sup> Likewise, negative binomial regression was used to estimate *Duration* as a test of robustness. These results, presented in Table 6, are also consistent with the OLS results.

its significance and direction (and, in fact, is very close in magnitude) to its corresponding result in Model 9 of Table 2. This suggests that non-random selection on *Gain Disclosed* is not biasing the regression results. Lastly, *Lambda* (i.e. the inverse Mills Ratio) is not significant in the second stage of the model. This further evidences that selection bias is not an issue for the *Gain-to-Assets* results.

In Model 2 of Table 4, the coefficient for Divestiture Experience shows that a one-unit increase in *Divestiture Experience* results in a 0.3 percent increase in *Gain-to-Assets*. Therefore, overall, even after controlling for the effects of non-random selection, H3 is still supported.

The final three hypotheses consider the relationship between divestiture experience and performance measured as cumulative abnormal returns using three different event dates. Hypothesis 4 (H4) predicts that firm divestiture experience is positively associated with divestiture announcement date-based cumulative abnormal returns. In Model 12, the coefficient of *Divestiture Experience* is significant ( $p < 0.05$ ) and indicates that a one-unit increase in *Divestiture Experience* corresponds to a 0.02% increase in the firm's *Announcement Date CAR*. This supports H4. Hypothesis 5 (H5) predicts that firm divestiture experience is positively associated with divestiture effective date-based cumulative abnormal returns. The results of Model 15 indicate that a one-unit increase in *Divestiture Experience* results in a 0.01% increase ( $p < 0.01$ ) in the firm's *Effective Date CAR*. Interpreting the results using the standardized coefficients in Model 15 of Table 3, a one-standard deviation increase in *Divestiture Experience* results, on average, in an increase in *Effective Date CAR* of 0.022 standard deviations. This supports H5. Hypothesis 6 (H6) predicts that firm divestiture experience is negatively associated with divestiture withdrawn date-based cumulative abnormal returns. The coefficient of *Divestiture Experience* in Model 18, although negative, is not significant at the ten percent level of significance. Thus, H6 is unsupported.

## 2.5 DISCUSSION

With the results in hand, attention can now turn to this paper's research question: is firm divestiture experience associated with divestiture process performance? Although the results show that the general answer is yes, there are numerous aspects of this question that deserve detailed discussion.

To start, the hypotheses for *Duration* (H2), *Gain-to-Assets* (H3), *Announcement Date CAR* (H4), and *Effective Date CAR* (H5), each predicted a positive relationship between firm divestiture experience and its respective process performance measure. In these four cases, a significant, positive relationship was found. The presence of a positive link between divestiture experience and performance – showing that divestiture experience is beneficially associated with performance – helps to support the case that firms, on average, can learn to divest. This is quite striking, as it means that firms are able, on average, to avoid (at least to some degree) succumbing to the potential pitfalls associated with organizational learning, such as overgeneralization.

For *Withdrawn Date CAR* (H6), however, there was no evidence of a significant relationship between divestiture experience and this performance measure. This may suggest that, once the firm finds itself in the predicament of having to withdraw from the divestiture process, its experience has no bearing on the adverse outcomes that will correspondingly arise. The market appears to be indifferent to how much divestiture experience firms have previously accumulated when it is penalizing them for process failure in the divestiture at hand. In fact, the only variable showing significance in the model used to test H6 (Model 18 of Table 2) is the control variable *Return on Equity* ( $\beta = -0.006$ ,  $p < 0.05$ ). *Return on Equity* is a measure of managerial efficiency, and its negative coefficient estimate may be interpreted as indicating that the market more severely penalizes firms with higher *Return on Equity* that fail in the divestiture process since the market was likely expecting these to be the very firms that could be depended upon for a successful divestiture.



In the case of *Completion* (H1), there is strong evidence for the presence of a relationship between firm divestiture experience and completion performance – but the evidence regarding the nature of that relationship suggests that it is in the opposite direction than that hypothesized in H1. Rather than a positive relationship, the results show that an increase in *Divestiture Experience* actually impairs the likelihood of the firm completing the divestiture process. Especially in light of the support for positive relationships with the other divestiture process performance variables, this negative relationship between *Divestiture Experience* and *Completion* seems counterintuitive. Upon reflection, however, this result could be suggesting that the firms with more experience in divestiture have learned something about the divestiture process – that an unwavering commitment to completing the divestiture may not always be the best outcome. Perhaps the more experienced firms have learned that walking away from a deal is, at times, the right thing to do – that the ramifications of completing a bad deal may be worse than those of not finishing it at all.

Next, for the five cases where there is evidence of a relationship between divestiture experience and performance, it is important to consider the magnitude of this relationship. In so doing, it is useful to consider the magnitude of this relationship relative to the magnitudes of other factors' relationships with performance. Since the variables in this paper have widely varying means and variances, comparisons are best made using the standardized coefficient model results in Table 3.

Starting with Model 3 in Table 3 for *Completion*, a comparison of the standardized coefficient for *Divestiture Experience* ( $\beta^* = -0.037$ ,  $p < 0.01$ ) with the standardized coefficients of the seven significant control variables shows that its absolute magnitude lies near the median, being larger than four and smaller than three. Of these, its absolute difference with the coefficient for *Divestiture Program* ( $\beta^* = 0.113$ ,  $p < 0.01$ ) is the largest. It makes good sense that *Divestiture Program* has such a strongly positive relationship with *Completion*. If a firm has launched a

refocusing strategy, there would be a great impetus for the firm to realize it and therefore drive the corresponding divestitures to closure.

Turning to Model 6 in Table 3 for *Duration*, the absolute magnitude of the standardized coefficient for *Divestiture Experience* ( $\beta^* = -0.023$ ,  $p < 0.05$ ) is smaller than those for all but one of the six significant control variable standardized coefficients. Here, *ln(Assets)* ( $\beta^* = 0.176$ ,  $p < 0.01$ ), *Unit-Parent Size Ratio* ( $\beta^* = 0.162$ ,  $p < 0.01$ ), and *Leverage* ( $\beta^* = -0.070$ ,  $p < 0.01$ ) are particularly strong drivers of *Duration*. The strength of these relationships is logical. Disentangling business units from large firms or extricating firms' bigger units is likely to be more complex than in the smaller cases due to more interdependencies, tighter integration, and a greater number of stakeholders involved – all of which could contribute to lengthening the duration of the divestiture process. As for the relationship between *Leverage* and *Duration*, it is easy to envision a highly leveraged firm in need of cash being very eager to close its divestiture deal as quickly as possible.

Model 9 in Table 3 for *Gain-to-Assets* reveals even more insights about the divestiture process and the role of divestiture experience. Here, the absolute magnitude of the coefficient for *Divestiture Experience* ( $\beta^* = 0.165$ ,  $p < 0.05$ ) is larger than one of the five significant control variable coefficients and is on par with another. The influence of *Unit-Parent Size Ratio* ( $\beta^* = 0.364$ ,  $p < 0.01$ ) on divestiture performance measured as *Gain-to-Assets* is especially notable. When a firm is divesting a unit that represents an increasingly larger part of its operations, such a unit would represent one of the parts of the company that the firm knows best. The firm would therefore have a clear understanding of how to position the unit for sale and preempt concerns or issues that might impair its price premium.

While there are similarities in the insights gleaned from the results of *Announcement Date CAR* and *Effective Date CAR* (Models 12 and 15 in Table 3, respectively), there are some interesting differences. Beginning with *Announcement Date CAR*, the absolute magnitude of the

standardized coefficient for *Divestiture Experience* ( $\beta^*=0.022$ ,  $p<0.01$ ) lies at the median of the absolute coefficient magnitudes of the four significant control variables. In the case of *Effective Date CAR*, the absolute coefficient of *Divestiture Experience* ( $\beta^*=0.016$ ,  $p<0.01$ ) shows the same pattern of relative strength (although one member of the set of significant control variables is different). In both cases,  $\ln(\text{Assets})$  plays the most influential role (Model 12:  $\beta^*=-0.108$ ,  $p<0.01$ ; Model 15:  $\beta^*=-0.053$ ,  $p<0.01$ ), perhaps reflecting the fact that as firm size increases, a particular divestiture is less of an event and therefore there is a reduced impact on the cumulative abnormal return. Yet there are differences among the results as well. In the results for *Announcement Date CAR*, the divestiture characteristic *Unit-Parent Geographic Relatedness* ( $\beta^*=0.009$ ,  $p<0.1$ ) is significant but with relatively low absolute magnitude, while it is not significant at all in the results for *Effective Date CAR*. However, in the results for *Effective Date CAR*, a different divestiture characteristic *Unit-Parent Industrial Relatedness* ( $\beta^*=0.015$ ,  $p<0.05$ ) is instead significant, and its relationship with *Effective Date CAR* performance is of near equal magnitude as that of *Divestiture Experience* ( $\beta^*=0.016$ ,  $p<0.01$ ). While the financial markets may be indifferent to parent-unit similarity on an industry basis at the beginning of the divestiture process, it is probable that the parent firm's deep familiarity with the unit's industry enables it to engage in a smoother and more effective divestiture process, for which it is recognized and rewarded upon the divestiture's completion.

Taken together, a very interesting picture of the relationship between divestiture experience and divestiture process performance – as well as the divestiture process itself -- emerges from the results of this paper. To start, it is clear that using a variety of measures of divestiture process performance is valuable and necessary to properly evaluate the divestiture process, as they are each capturing different aspects of it. This is demonstrated by the fact that the roles of not only firm divestiture experience but also key firm and divestiture characteristics vary across the six different process performance measures. Second, there is a relationship

between divestiture experience and performance, which is confirmed by the significance of coefficient estimate for *Divestiture Experience* for five of the six performance measures. This relationship is not always in the direction hypothesized, however, as was seen in the negative relationship between *Divestiture Experience* and performance measured as *Completion*. That incongruity, itself intriguing, lends further credence to the importance of using numerous performance measures to assess the divestiture process. Third, the relative impact of experience on divestiture performance (as compared with the other factors associated with performance) varies according to the measure of performance used. A firm's accumulated divestiture experience is a stronger driver of performance for some measures of divestiture process performance than others. This is important information for managers, as the ramifications of accumulating divestiture experience will not be the same across different measures of performance. Having this insight will enable firms to make informed decisions and tradeoffs about their divestiture strategies as necessary. Moreover, there are notable differences in other factors, such as indebtedness and firm size, that are related to divestiture process performance across the six performance variables. Not only does this shed light on the divestiture process, but it is likewise relevant to managers aiming for divestiture process success.

### **2.5.1 Limitations & Directions for Future Research**

This research does have some limitations, which shape an agenda for future work. For one, the variable *Divestiture Experience* is left censored. Although the linear depreciation approach taken in this paper greatly helps to address this issue (since more distant experiences contribute less than recent ones), it does not eliminate it. Thus, the measure for divestiture experience may offer an incomplete view for some firms' experience histories. For another, the different types of accumulated experience captured by *Divestiture Experience* are treated uniformly. While this approach is appropriate for this paper's research objectives, which were

targeted at understanding the firm divestiture learning and performance on an average basis, investigating the roles that specific types of experience may play (e.g. experience in divesting units of varying sizes, units in different or similar industries, units which were more or less integrated with the parent firm, etc.) could be an interesting extension into unpacking divestiture process performance.

Additionally, while the six divestiture performance variables do offer a new view of the divestiture process, still more types of divestiture process performance measures can be imagined. For example, maintaining employee morale and productivity (in both the divesting unit and also the parent firm) during the divestiture process is an important task. Survey methods could be a very effective way of collecting this data, although implementation is notoriously challenging on a large sample scale. As another example, financial metrics for the business unit – such as its revenue and profitability – would offer important insights into how well the parent firm has navigated the divestiture process. Unfortunately, this data must be hand-collected from the firm's regulatory filings, which places natural constraints on sample size. Furthermore, such a hand-collection process is made very difficult due to the fact there are only limited regulatory requirements around business unit reporting, so business unit data in the regulatory filings may be incomplete, if not wholly unavailable. (Unfortunately, the firm's business segment reporting offers only a rough approximation of the firm's business unit structure; cf. Villalonga, 2004), Making this data collection problem even worse is the issue that, when business units are discussed in the firm's filings, the business unit financials (and, in fact, any business unit characteristics, such as assets, number of employees, etc.) are inconsistently available due to the lack of regulatory reporting requirements for business units. So, while business unit performance variables could be very useful measures of the divestiture process, researchers not only need to overcome the hand-collection hurdle but also the non-random selection issues stemming from firms' choices in business unit data disclosure.

This business unit-specific data challenge also surfaces another limitation of this paper, in that potential bias due to non-random selection on *unobservable* characteristics stemming from the firm's decision to divest a particular business unit was not addressed. The coarsened exact matching procedures used in this paper robustly helped to confirm that that non-random selection on *observable* characteristics was not biasing this paper's results. However, would a business unit performance variable like unit profitability have been available – and such a performance measure would not only be meaningful for the divestiture process, but it would also be applicable to units in the treatment group (divested units) and in the control group (non-divesting units) – then first-differencing techniques on the performance variable could have been applied in the second stage of the coarsened exact matching regressions to account for any non-random selection on unobservable characteristics due to the firm's divestiture decision.

Lastly, the data sample for this research is composed of divestitures that were conducted by public firms headquartered in the United States. While these divestitures were cross-border (e.g. a U.S. parent may divest one of its business units located in France), they do not include divestitures made by non-U.S. parent firms. Examining these divestitures could provide a platform for a number of very interesting extensions to this work. There may be fundamental differences in the divestiture process across geographies, perhaps stemming from differences in corporate governance, organizational structure, management-employee relations, political environments, and so forth. Not only could these differences impact the way the divestiture process unfolds, but they could also impact the type and level of firm experience needed to successfully navigate divestiture on a global level.

## **2.6 CONCLUSION**

This research focused on the divestiture process, and examined whether and how firm divestiture experience may be related to divestiture process performance. To appropriately

characterize the richness of the divestiture process, six outcome measures were developed and applied to a large sample of cross-industry and cross-border divestitures announced by public, U.S.-headquartered firms over a twenty-six year period. While strong links between divestiture experience and performance were identified, divestiture experience was found to benefit divestiture performance only inconsistently. The surfacing of the resultant performance tradeoffs evidences the value of employing a process-based view quantitatively to large samples in organizational learning research. In so doing, this paper offers new insights into the relationship between experience and performance in the arena of corporate scope, and identifies potential process-based sources of firm performance heterogeneity. Furthermore, in examining this important but understudied strategic process, this paper advances our understanding of corporate divestiture and serves to help open the heretofore “black box” of the divestiture process.

## 2.7 TABLES

Table 1: Descriptive Statistics and Correlation Matrix

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1 Completion	0.772	0.420	1																
2 Duration	51.095	113.948	.	1															
3 Gain-to-Assets	0.028	0.105	.	0.01	1														
4 Announcement Date CAR	0.009	0.118	0.00	0.03***	-0.01	1													
5 Effective Date CAR	0.004	0.134	.	0.00	0.14***	0.60***	1												
6 Withdrawn Date CAR	-0.010	0.145	.	.	.	0.13***	.	1											
7 Divestiture Experience	7.027	12.875	-0.01*	0.01**	-0.07	-0.03***	-0.01*	0.00	1										
8 ln(Total Assets)	7.691	2.723	-0.02***	0.06***	-0.29***	-0.07***	-0.04***	0.00	0.58***	1									
9 Negative Net Income	0.333	0.471	-0.01	-0.03***	0.16***	0.05***	0.04***	-0.02	-0.14***	-0.37***	1								
10 Leverage	0.379	0.269	-0.04***	0.04***	-0.08*	0.03***	0.01*	-0.03	0.11***	0.20***	0.21***	1							
11 Tobin's q	1.454	45.223	-0.01*	-0.01**	0.24***	-0.03***	-0.01	-0.01	0.00	-0.03***	0.01	-0.02***	1						
12 Return on Equity	-0.195	36.750	0.00	0.00	0.36***	-0.01	0.01	-0.04*	0.00	0.01*	-0.01***	0.01**	0.00	1					
13 Herfindahl Index	0.630	0.327	-0.02***	-0.01**	0.13**	0.02***	0.01	0.02	-0.24***	-0.39***	0.16***	-0.01*	0.01*	-0.01	1				
14 Unit-Parent Size Ratio	0.248	0.429	-0.08***	0.08***	0.34***	0.20***	0.06***	0.00	-0.19***	-0.38***	0.29***	0.32***	-0.05***	0.01	0.15***	1			
15 Unit-Parent Geographic Relatedness	0.811	0.392	0.02***	0.03***	-0.04	0.02***	0.01	-0.01	-0.20***	-0.23***	0.06***	0.04***	0.00	0.00	0.10***	0.13***	1		
16 Unit-Parent Industrial Relatedness	0.363	0.481	-0.04***	0.04***	0.12**	0.01**	0.02***	-0.01	-0.14***	-0.13***	0.10***	-0.01***	0.01	-0.01*	0.17***	0.09***	0.02***	1	
17 Divestiture Program	0.528	0.499	0.10***	0.02***	-0.10**	-0.03***	-0.02***	0.00	0.43***	0.54***	-0.13***	0.10***	-0.01*	0.01*	-0.28***	-0.23***	-0.15***	-0.11***	1

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10



Table 2: OLS Estimates of Divestiture Performance

Dependent Variable:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	
	Baseline	Completion		Baseline	Duration		Gain-to-Assets			Announcement Date CAR			Effective Date CAR			Withdrawn Date CAR			
		Controls	HI		Controls	H2	Baseline	Controls	H3	Baseline	Controls	H4	Baseline	Controls	H5	Baseline	Controls	H6	
Divestiture Experience	-0.0003 (0.0003)		-0.001** (0.0004)	0.110 (0.0847)		-0.239*** (0.0844)	-0.0007** (0.0003)		0.0019** (0.0008)	-0.0003*** (0.0001)		0.0002** (0.0001)	-0.0001*** (0.000)		0.0001*** (0.000)	0.000 (0.0004)		-0.0002 (0.0006)	
ln(Total Assets)		-0.0063*** (0.0016)	-0.0037** (0.0018)		7.813*** (0.564)	8.291*** (0.651)		-0.0093 (0.0066)	-0.014* (0.0078)			-0.0037*** (0.0005)	-0.0041*** (0.0006)		-0.0021** (0.0008)	-0.0025*** (0.0009)		0.002 (0.0021)	0.0024 (0.0026)
Negative Net Income		-0.0202*** (0.0061)	-0.0185*** (0.0061)		-3.375 (2.483)	-3.503 (2.482)		0.000 (0.0181)	-0.006 (0.0178)			0.006*** (0.0018)	0.0059*** (0.0018)		0.0069*** (0.0021)	0.0065*** (0.0022)		0.0092 (0.0079)	0.0108 (0.0079)
Leverage		0.0328*** (0.0126)	0.0322** (0.0126)		-33.040*** (5.230)	-32.710*** (5.223)		-0.0486 (0.0393)	-0.0567 (0.039)										
Tobin's q		-0.0005 (0.0006)	-0.0004 (0.0006)		0.405 (0.287)	0.419 (0.290)		0.0136 (0.0107)	0.0123 (0.011)										
Return on Equity		0.000 (0.0001)	0.000 (0.0001)		-0.017 (0.0317)	-0.0261 (0.0288)		0.0009*** (0.0001)	0.0009*** (0.0001)		0.000 (0.0001)	0.000 (0.0001)		0.0001* (0.0001)	0.0001* (0.0001)		-0.0006*** (0.0002)	-0.0006*** (0.0002)	
Herfindahl Index		-0.0105 (0.0089)	-0.0094 (0.0089)		-6.435* (3.781)	-6.340* (3.843)		0.0259 (0.0163)	0.0304* (0.0167)		-0.0033 (0.0023)	-0.0036 (0.0023)		-0.0046** (0.0022)	-0.0048** (0.0023)		0.0159 (0.0127)	0.0153 (0.0129)	
Unit-Parent Size Ratio		-0.0493*** (0.0084)	-0.0465*** (0.0084)		48.700*** (2.824)	48.670*** (2.873)		0.133*** (0.0401)	0.133*** (0.0389)										
Unit-Parent Geographic Relatedness		0.0369*** (0.0075)	0.0348*** (0.0076)		13.620*** (3.344)	13.190*** (3.410)		-0.0096 (0.0247)	-0.0088 (0.024)		0.0022 (0.0014)	0.0022 (0.0014)		0.0006 (0.0013)	0.0007 (0.0013)		0.0024 (0.0088)	0.0018 (0.0089)	
Unit-Parent Industrial Relatedness		-0.0188*** (0.006)	-0.0197*** (0.0061)		2.860 (2.363)	2.280 (2.402)		0.035** (0.0142)	0.0382** (0.0148)		0.0011 (0.0015)	0.0012 (0.0015)		0.0034** (0.0016)	0.0039** (0.0016)		0.0007 (0.0072)	-0.0004 (0.0073)	
Divestiture Program		0.0697*** (0.0063)	0.071*** (0.0063)		-7.898*** (2.658)	-7.179*** (2.653)		0.0156 (0.0105)	0.011 (0.0105)		-0.0001 (0.0017)	-0.0007 (0.0017)		0.000 (0.003)	-0.0004 (0.0031)		-0.004 (0.008)	-0.0035 (0.0083)	
Constant	0.780*** (0.0032)	0.728*** (0.104)	0.812*** (0.103)	50.790*** (0.920)	-1.014 (17.490)	-20.290 (16.140)	0.0319*** (0.0063)	0.057 (0.0815)	0.0842 (0.0837)	0.0114*** (0.001)	0.0123 (0.021)	0.0134 (0.0214)	0.0052*** (0.0011)	0.0012 (0.0347)	0.0006 (0.035)	-0.0105** (0.0043)	-0.0133 (0.038)	-0.0077 (0.0406)	
Industry Fixed Effects	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	
Year Fixed Effects	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	
R-Squared	0.000	0.057	0.054	0.000	0.067	0.067	0.005	0.360	0.376	0.001	0.017	0.018	0.000	0.007	0.007	0.000	0.075	0.077	
Number of Observations	42,182	16,601	16,316	32,801	14,721	14,519	411	345	345	34,377	29,804	29,230	26,065	22,856	22,440	1,718	1,583	1,534	

Robust standard errors clustered by firm in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

Table 3: Unstandardized and Standardized OLS Coefficient Estimates of Divestiture Performance

Dependent Variable:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	Baseline	Completion		Baseline	Duration		Gain-to-Assets			Announcement Date CAR			Effective Date CAR			Withdrawn Date CAR		
		Controls	H1		Controls	H2	Baseline	Controls	H3	Baseline	Controls	H4	Baseline	Controls	H5	Baseline	Controls	H6
Divestiture Experience	-0.0003*		-0.001***	0.110**		-0.239**	-0.0007***		0.0019**	-0.0003***		0.0002***	-0.0001***		0.0001***	0.000		-0.0002
	(-0.0089)		(-0.0367)	(0.0125)		(-0.0229)	(-0.0718)		(0.165)	(-0.0305)		(0.0216)	(-0.0111)		(0.0161)	(0.0017)		(-0.0136)
ln(Total Assets)		-0.0063***	-0.0037**		7.813***	8.291***		-0.0093	-0.014*		-0.0037***	-0.0041***		-0.0021***	-0.0025***		0.002	0.0024
		(-0.0527)	(-0.0311)		(0.165)	(0.176)		(-0.180)	(-0.274)		(-0.0964)	(-0.108)		(-0.0439)	(-0.0531)		(0.0355)	(0.0417)
Negative Net Income		-0.0202***	-0.0185***		-3.375	-3.503		0.000	-0.006		0.006***	0.0059***		0.0069***	0.0065***		0.0092	0.0108
		(-0.0311)	(-0.0288)		(-0.0131)	(-0.0137)		(0.000)	(-0.0251)		(0.029)	(0.0285)		(0.0272)	(0.0258)		(0.0314)	(0.0366)
Leverage		0.0328***	0.0322***		-33.040***	-32.710***		-0.0486	-0.0567									
		(0.0278)	(0.0277)		(-0.0708)	(-0.0704)		(-0.107)	(-0.125)									
Tobin's q		-0.0005	-0.0004		0.405	0.419		0.0136	0.0123									
		(-0.0064)	(-0.0054)		(0.0132)	(0.0138)		(0.125)	(0.113)									
Return on Equity		0.000	0.000		-0.017	-0.0261		0.0009***	0.0009***		0.000	0.000		0.0001	0.0001		-0.0006*	-0.0006*
		(-0.0002)	(0.0011)		(-0.0014)	(-0.0022)		(0.323)	(0.322)		(-0.0051)	(-0.0052)		(0.0105)	(0.0104)		(-0.0491)	(-0.049)
Herfindahl Index		-0.0105	-0.0094		-6.435*	-6.340*		0.0259	0.0304*		-0.0033*	-0.0036*		-0.0046**	-0.0048**		0.0159	0.0153
		(-0.0109)	(-0.0098)		(-0.017)	(-0.0168)		(0.0782)	(0.0917)		(-0.0113)	(-0.0121)		(-0.0129)	(-0.0133)		(0.0336)	(0.0319)
Unit-Parent Size Ratio		-0.0493***	-0.0465***		48.700***	48.670***		0.133***	0.133***									
		(-0.0671)	(-0.0638)		(0.162)	(0.162)		(0.363)	(0.364)									
Unit-Parent Geographic Relatedness		0.0369***	0.0348***		13.620***	13.190***		-0.0096	-0.0088		0.0022*	0.0022*		0.0006	0.0007		0.0024	0.0018
		(0.0423)	(0.0406)		(0.0394)	(0.0383)		(-0.0302)	(-0.0277)		(0.0089)	(0.009)		(0.0021)	(0.0023)		(0.0053)	(0.0039)
Unit-Parent Industrial Relatedness		-0.0188***	-0.0197***		2.860	2.280		0.035**	0.0382***		0.0011	0.0012		0.0034**	0.0039**		0.0007	-0.0004
		(-0.0287)	(-0.0304)		(0.011)	(0.0088)		(0.152)	(0.166)		(0.0051)	(0.0056)		(0.0135)	(0.0153)		(0.0025)	(-0.0012)
Divestiture Program		0.0697***	0.071***		-7.898***	-7.179***		0.0156	0.011		-0.0001	-0.0007		0.000	-0.0004		-0.004	-0.0035
		(0.110)	(0.113)		(-0.0314)	(-0.0286)		(0.0688)	(0.0487)		(-0.0006)	(-0.0036)		(0.0001)	(-0.0018)		(-0.0143)	(-0.0124)
Constant	0.780***	0.728***	0.812***	50.790***	-1.014	-20.290	0.0319***	0.057	0.0842	0.0114***	0.0123	0.0134	0.0052***	0.0012	0.0006	-0.0105***	-0.0133	-0.0077
Industry Fixed Effects	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Year Fixed Effects	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
R-Squared	0.000	0.057	0.054	0.000	0.067	0.067	0.005	0.360	0.376	0.001	0.017	0.018	0.000	0.007	0.007	0.000	0.075	0.077
Number of Observations	42,182	16,601	16,316	32,801	14,721	14,519	411	345	345	34,377	29,804	29,230	26,065	22,856	22,440	1,718	1,583	1,534

Standardized coefficient estimates appear in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

Table 4: Heckman Selection Model for Performance Measured as the Gain (or Loss) on the Divestiture Sale Scaled by Parent Total Assets (Gain-to-Assets)

Dependent Variable:	(1) Gain Disclosed	(2) Gain-to- Assets
Segment Count	0.147*** (0.0517)	
Restatements	-0.520* (0.284)	
Divestiture Experience	-0.0199*** (0.007)	0.0026** (0.0012)
ln(Total Assets)	-0.087** (0.0425)	-0.0081 (0.0052)
Negative Net Income	-0.254 (0.154)	-0.0035 (0.0243)
Leverage	0.195 (0.337)	-0.0773* (0.0447)
Tobin's q	0.0124 (0.0834)	0.0102 (0.0122)
Return on Equity	-0.0438 (0.0692)	-0.0186 (0.0269)
Herfindahl Index	-0.0508 (0.227)	0.0565* (0.0295)
Unit-Parent Size Ratio	-0.264 (0.206)	0.156*** (0.0458)
Unit-Parent Geographic Relatedness	0.242 (0.176)	-0.0168 (0.0203)
Unit-Parent Industrial Relatedness	-0.137 (0.131)	0.0451** (0.0186)
Divestiture Program	-0.158 (0.142)	0.0157 (0.0113)
Constant	0.888 (0.647)	0.0748 (0.0783)
Lambda		-0.0802 (0.0623)
Industry Fixed Effects	Yes	Yes
Year Fixed Effects	No	No
Number of Observations	593	324

Robust standard errors clustered by firm in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

## 2.8 FIGURES

Figure 1: Global Divestitures from 1985-2015

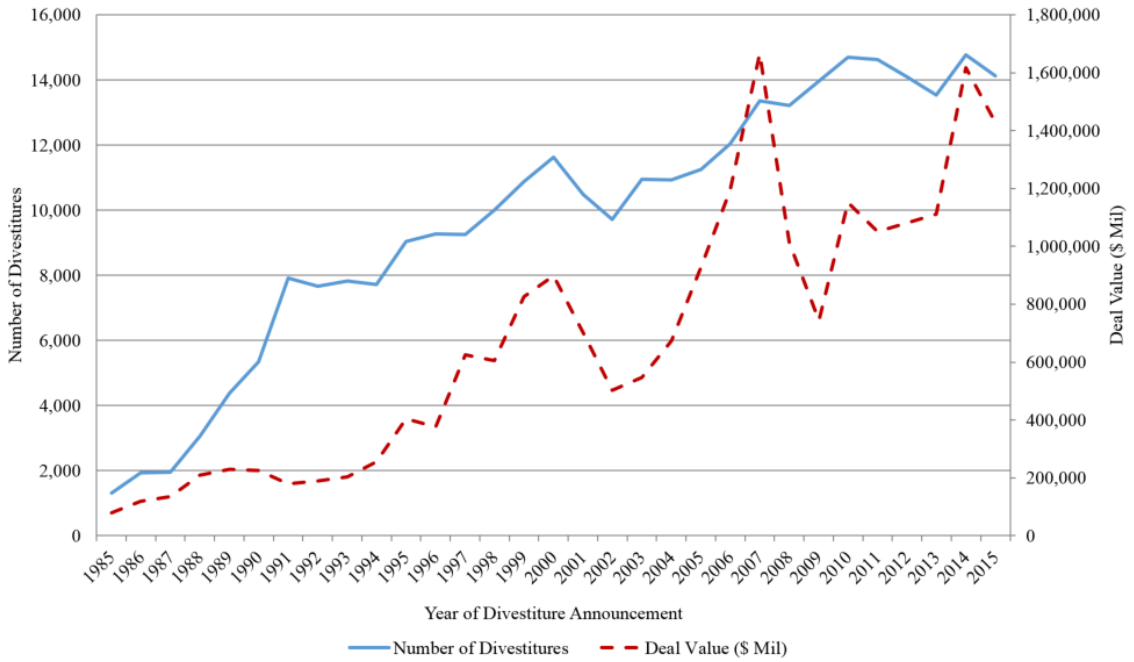
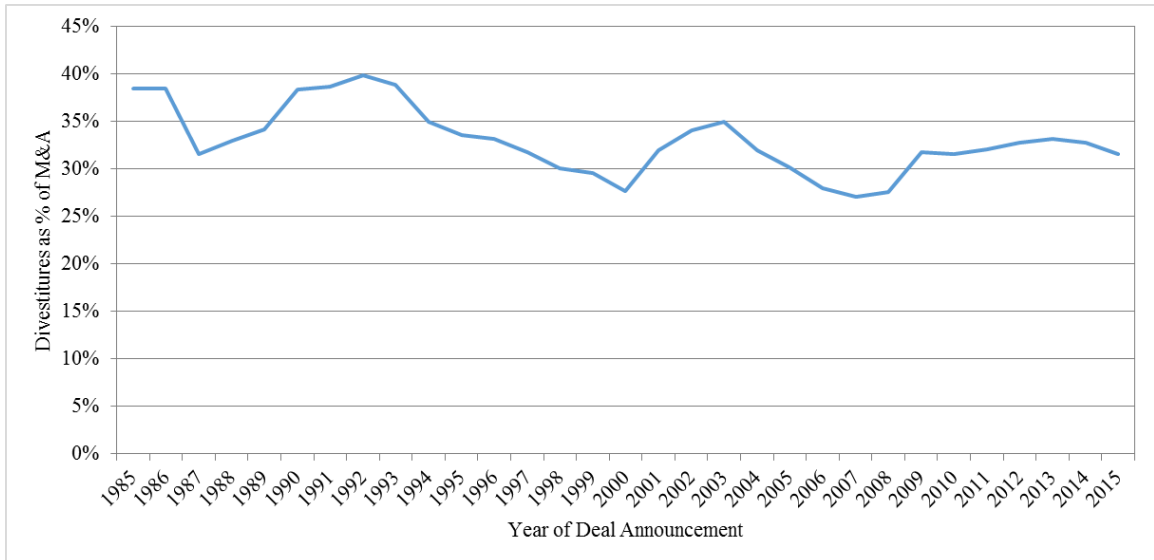


Figure 2: Divestiture Activity as a Percent of M&A Activity (Deal Count Basis), 1985-2015



## 2.9 APPENDIX

Table 5: Logit Estimates of Completion Divestiture Performance

<b>Dependent Variable:</b> (Odds Ratios)	(1)	(2)	(3)
	Baseline	<b>Completion</b>	
		Controls	H1
Divestiture Experience	0.998 (0.002)		0.989*** (0.004)
ln(Total Assets)		0.939*** (0.016)	0.963** (0.018)
Negative Net Income		0.815*** (0.051)	0.829*** (0.053)
Leverage		1.364** (0.171)	1.356** (0.172)
Tobin's q		0.996 (0.003)	0.997 (0.003)
Return on Equity		1.000 (0.001)	1.000 (0.001)
Herfindahl Index		0.901 (0.090)	0.910 (0.094)
Unit-Parent Size Ratio		0.657*** (0.044)	0.667*** (0.046)
Unit-Parent Geographic Relatedness		1.466*** (0.108)	1.446*** (0.108)
Unit-Parent Industrial Relatedness		0.834*** (0.051)	0.825*** (0.052)
Divestiture Program		2.102*** (0.140)	2.205*** (0.156)
Constant	3.538*** (0.065)	2.802 (3.193)	3.919 (4.488)
Industry Fixed Effects	No	Yes	Yes
Year Fixed Effects	No	Yes	Yes
Pseudo-Log Likelihood	-22350.22	-5434.73	-5257.83
Chi-Square	0.75	795.49***	749.75***
Number of Observations	42,182	16,553	16,260

Robust standard errors clustered by firm in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

Table 6: Negative Binomial Estimates of Duration Divestiture Performance

<b>Dependent Variable:</b> (IRR)	(1)	(2)	(3)
	<b>Baseline</b>	<b>Duration</b>	
		Controls	H2
Divestiture Experience	1.002 (0.002)		0.996*** (0.002)
ln(Total Assets)		1.150*** (0.012)	1.160*** (0.015)
Negative Net Income		0.969 (0.041)	0.969 (0.041)
Leverage		0.557*** (0.059)	0.563*** (0.060)
Tobin's q		1.027 (0.025)	1.030 (0.026)
Return on Equity		0.998 (0.008)	0.997 (0.007)
Herfindahl Index		0.867** (0.051)	0.871** (0.052)
Unit-Parent Size Ratio		2.256*** (0.104)	2.263*** (0.106)
Unit-Parent Geographic Relatedness		1.216*** (0.068)	1.206*** (0.069)
Unit-Parent Industrial Relatedness		1.027 (0.038)	1.019 (0.039)
Divestiture Program		0.888*** (0.035)	0.895*** (0.035)
Constant	50.710*** (0.934)	18.190*** (5.837)	14.650*** (4.692)
Industry Fixed Effects	No	Yes	Yes
Year Fixed Effects	No	Yes	Yes
Pseudo R-Squared	0.000	0.006	0.006
ln(alpha)	2.017***	1.474***	1.477***
Number of Observations	32,801	14,721	14,519

Robust standard errors clustered by firm in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

### **3 INTERNAL EXPERIENCE TRANSFER IN CORPORATE DIVESTITURE**

#### **3.1 INTRODUCTION**

The issue of whether and how firms learn has been a topic of vigorous discussion for decades, especially amongst scholars in the organizational theory (Cyert and March, 1963; Levitt and March, 1988) and strategic management disciplines (Grant, 1996; Kogut and Zander, 1992; Teece et al., 1997; Zollo and Winter, 2002). Fueling this topic's interest is the fact that valuable firm resources, from knowledge to routines to capabilities, are an outgrowth of firm learning. In advancing our understanding of firm learning, scholars are advancing our understanding of an important source of firm performance advantage.

A central pillar of organizational learning research has addressed the process of experiential learning, or learning-by-doing. In this case, the firm accumulates experience through repetition of a particular activity, and progresses along its learning curve as it receives performance feedback and adjusts its actions in response (Dutton and Thomas, 1984; Yelle, 1979). While the premise of experiential learning is fundamental, its empirical support has been mixed in the strategic management literature, including in the context of corporate development (cf. Barkema and Schijven, 2008; King et al., 2004). These inconsistencies have spurred scholars to investigate the hurdles that impede learning (Levinthal and March, 1993), as well as to explore the potential of alternative learning paths.

One such alternative is internal experience transfer, wherein the firm transfers its own experience in one area to that in another (Argote and Ingram, 2000). Scholars have demonstrated its promise in a variety of firm contexts (e.g. Darr et al., 1995; Haleblan and Finkelstein, 1999), as well as its challenges (Gupta and Govindarajan, 2000; Szulanski, 1996). One particularly vibrant stream has considered the potential role of internal experience transfer in firm scope change, wherein the firm transfers its experience in one mode of corporate development -- such as alliances, joint ventures and acquisitions -- from one situation to another (e.g. Barkema et al.,

1996.; Ellis et al., 2011; Finkelstein and Halebian, 2002; Kale and Singh, 2007). These studies suggest that learning through internal transfer helps firms to circumvent the constraints posed by learning-by-doing in scope change (e.g. Penrose, 1959) and serves as a critical enabler of firms' pursuit of growth and the fulfillment of their strategic objectives.

This paper focuses on activity-to-activity internal experience transfer in corporate development, and considers if experience gained in a firm's execution of one strategic activity is transferable to its execution of another strategic activity. Specifically, this research examines whether and how a firm's acquisition experience may influence its divestiture performance. Two primary avenues for experience transfer are considered: direct and moderating. In the first, the firm's acquisition experience is directly applied to its execution of divestiture. Stated differently, this path represents the question of whether a firm's learning how to acquire directly impacts its implementation of divestiture. In the second, the transfer of the firm's acquisition experience moderates the relationship between the firm's divestiture experience and its divestiture performance. This path for transfer surfaces the issue of whether a firm's learning how to acquire influences its ability to learn how to divest.

In so doing, this research makes several contributions. With some important exceptions (e.g. Bingham et al., 2015; Zollo and Reuer, 2010) activity-to-activity transfer has seen only limited attention in the strategic management literature, in spite of its apparent prevalence and value. In focusing on activity-to-activity internal transfer, this research helps to offer a more complete picture of intra-firm learning processes. Moreover, by examining acquisition and divestiture learning concurrently, and by considering both the direct and moderating paths to transfer, this research advances our understanding of how learning processes are intertwined in firms. While prior research has largely investigated learning and capability development treating corporate development activities as being in isolation (e.g. Anand and Khanna, 2000; Hayward, 2002; Zollo and Singh, 2004), this research offers a more realistic view of the comingled nature



of learning processes in firms by treating them in concert. Lastly, in considering experience transfer from acquisition to divestiture – two strategic activities that are both crucial to firm development, but that present a tension through their competing objectives of scope expansion and scope reduction – this research sheds light on the opportunities and limits inherent to internal experience transfer.

## **3.2 THEORY & HYPOTHESES**

### **3.2.1 Internal Experience Transfer**

Internal experience transfer is defined as the process through which the firm transfers its own experience in one area to that in another (Argote & Ingram, 2000; Levitt & March, 1988). Its consideration in the organizational context has its origins in cognitive psychology, which examined experience transfer within individuals (Thorndike & Woodworth, 1901; Gick and Holyoak, 1987). From that foundation, scholars expanded their focus to include experience transfer between individuals; this research stream held important implications for education and job training (Baldwin and Ford, 1988; Cormier and Hagman, 1987). A notable outcome of this rich history of experience transfer research was the insight that similarity – be it similarity of situation, activity, or time – plays a key role in enabling transfer. As such, these works also foreshadowed the challenges of experience transfer, as well as the potential for negative, or performance-impairing, experience transfer that has since been identified in organizational studies.

From these roots, the study of experience transfer within firms has flourished, with scholars engaging with the topic from a variety of perspectives (e.g. Capron, 1999; Dokko et al., 2009; Epple et al., 1991; Helfat and Eisenhardt, 2004; Sakhartov and Folta, 2014; Winter and Szulanski, 2001). The interest in within-firm experience transfer speaks to its importance in organizations. Indeed, experience transfer animates a fundamental premise of the resource-based view of the firm, wherein the fungibility of resources (including the knowledge, routines, and

capabilities reaped through experience) is an important component of sustainable firm growth (Teece, 1982; Wernerfelt, 1984). As such, it is unsurprising that a robust stream in the strategic management literature explores the potential of internal experience transfer in the context of firm scope change.

Through these works, a number of factors that may drive experience transfer within firms have been identified. For one, there may be limitations to the firm's ability to learn from its own direct accumulated experience. This could be due to opportunity; some important strategic activities like international expansion, for example, are simply infrequently performed. Cost and risk may also limit the firm's ability to accumulate first-hand experience, and encourage its search for an alternative source. Moreover, managerial constraints may stimulate internal experience transfer. There are natural limits to the degree that managers' attention may be stretched (Ocasio, 1997; Penrose, 1959), and thus transferring prior experiences rather than engaging in additional ones may be the most viable course of action.

A clear theme that emerges from intra-firm experience transfer research is that it can be very difficult to execute successfully. At best, a failed transfer process has a neutral effect on the firm's performance. Such neutral effects might stem from an incomplete or interrupted transfer process, which mutes the ability of the experience to influence the target (Gupta and Govindarajan 2000, Szulanski 1996). At worst, a firm's transfer process has a negative impact on firm performance. Firms may inappropriately generalize from its past experience, and this may cause firms to misapply their past experiences to the focal activity (Finkelstein and Halebian, 2002; Gavetti et al., 2005). Causal ambiguity can plague the firm internally, wherein it is unable to identify the aspects of its experience that are driving performance gains, and therefore may fail when it attempts to reapply its experience elsewhere (Barney, 1991; Lippman and Rumelt, 1982; Peteraf, 1993). In the context of scope change, given the relative complexity and intermittency of boundary changing activities, firms are especially vulnerable to superstitious learning, wherein

firms “don’t really know what they think they know” (Levitt and March, 1988; Zollo, 2009) and have misunderstood the relationship between action and outcome.

However, scholars have made strides in identifying conditions that help to facilitate internal experience transfer. Similarities in timing, task, and context between the firm’s accumulated experience and the focal situation help to facilitate transfer. For example, accumulated experience in acquisitions of the same size as the focal acquisition (Ellis et al., 2011), in similar industries as the focal acquisition (Haleblian and Finkelstein, 1999; Hayward, 2002), and in similar geographic regions (Barkema et al., 1996; Bruneel, 2010) have all been identified as contextual factors that can help to promote successful internal experience transfer. The importance of contextual, or situational similarity, between the firm’s experience and the focal situation for transfer has been empirically demonstrated in other modes of corporate development as well, such as in repeated experiences with the same partner and similarity of technical domain in alliances (Zollo et al. 2002).

Likewise, the benefits of task-based similarities have been demonstrated in activity-to-activity experience transfer process. In this case, scholars examine how the firm’s experience in one type of corporate development activity may be transferred to another. For example, Zollo and Reuer (2010) investigated the potential for internal experience transfer from a firm’s experience in alliances to its execution of acquisitions. They found that the more the structural characteristics of the firm’s prior alliance experience mimicked the managerial processes and tasks associated with the focal acquisition (as per level of integration and relational quality), the more beneficial the alliance experience would be to the acquisition’s performance. Nadolska and Barkema (2007) demonstrated that, upon accumulating a sufficient level of international joint venture experience, the firm’s international joint venture experience would benefit its international acquisition performance.

### **3.2.2 Acquisition and Divestiture as Candidates for Experience Transfer**

This paper investigates whether and how a firm's acquisition experience may be transferred to benefit its divestiture performance. There are several compelling reasons to examine experience transfer against the backdrop of these two corporate development activities.

For one, both acquisition and divestiture are fundamental modes of scope change. It is not unusual for asset divestment to directly follow an earlier acquisition (Porter, 1976; Capron, Mitchell, Swaminathan, 2001). As such, studying how these learning processes may be intertwined is particularly meaningful. Their temporal proximity also makes acquisition a ready target when managers search "locally" for substitutable recent experience (Simon, 1955). For another, there are constraints on a firm's ability to learn to divest through experiential learning alone. Certainly, there are natural limits – unlike acquisition, should a firm divest in excess, it will shrink into non-existence. Further, due to its (often unfair) association with strategic failure, there is typically a veil of secrecy around the divestiture process, even within the firm itself (Ghertman, 1988; Nees, 1981). This lack of transparency impairs the firm's learning from its own past experiences. These issues drive the need for an alternative experience source. In contrast, acquisitions do not suffer from the same reputational effects, and firms normally engage in more acquisitions than divestitures (on average, divestitures account for only about thirty percent of M&A activity). Since firms may have a better opportunity to accumulate acquisition experience than in divestiture, this serves to make acquisition experience a potential transfer source.

Moreover, there are notable task-oriented similarities between the acquisition and divestiture processes. Acquisition is often described as a two-stage process, a transaction stage followed by a post-deal integration stage (Haspeslagh and Jemison, 1991; Hitt et al., 2001). The transaction stage includes such tasks as the identification of potential buyers, performing due diligence, evaluating the state of the M&A markets, financial analysis, and deal negotiation.

Divestiture likewise has a transaction component, and these activities are similarly performed, albeit in “reverse” from the seller’s, rather than the buyer’s perspective (Gole and Hilger, 2008). Furthermore, these transaction-focused activities are often performed by a central corporate team. Such teams often handle the transaction aspects of all corporate development activities, including both acquisition and divestiture. That the same people could be involved would greatly assist the experience transfer process, especially in regards to any tacit knowledge transfer that needs to occur (Zollo & Winter 2002). The extent of these similarities has encouraged many scholars to treat acquisition and divestiture as being the two sides of the same coin, or as being located on the same activity spectrum. (Bingham et al., 2015; Boddewyn, 1979; Villalonga and McGahan, 2005).

There are, however, striking differences between the acquisition and divestiture processes, which could stymie experience transfer. These differences have, in fact, caused some scholars to rally against their mirror-image association in research (e.g. Brauer, 2006). The crux of these differences stems from the structure of the divestiture process itself. In divestiture, the parent firm must fully de-integrate, or disentangle, the unit from the parent before the deal completes. This is a taxing and difficult process that demands extensive managerial attention. Until the deal closes and the heavy lifting of integration begins, the acquisition is just a financial transaction to the buyer. To the seller, divestiture is such a costly, disruptive process that some practitioners have likened it to divorce (as opposed to the marriage of acquisition). Thus, with respect to the de-integration phase of divestiture, there appear to be few shared task similarities between acquisition and divestiture. Indeed, developing a capability for integration, given the tight integration that could ensue, may even impair the firm’s ability to de-integrate.

### **3.2.3 The Transfer of Acquisition Experience to Divestiture**

Although this paper is focused on internal experience transfer, and investigates whether and how a firm’s acquisition experience may influence its divestiture performance, the potential

for experiential learning in divestiture should not be neglected. Although any learning through direct experience accumulation in divestiture may be insufficient for the firm's needs, or may be a less attractive learning path than others available to the firm, it still merits formal consideration. As per the learning-by-doing arguments presented in Essay 1, it is predicted that the firm's divestiture experience will benefit its divestiture performance. Thus:

*Baseline Hypothesis (H0): Firm divestiture experience is positively associated with divestiture performance.*

Two avenues for experience transfer within firms are considered in this paper. The first considers the direct effect that acquisition experience may have on divestiture performance. The second considers the potential for a moderating effect, wherein the firm's acquisition experience influences the relationship between the firm's divestiture experience and its divestiture performance.

Most studies of experience transfer in corporate development focus on the direct avenue of experience transfer. In some of these studies, the presence of a curvilinear transfer relationship has been empirically demonstrated (Finkelstein and Haleblan, 2002; Haleblan and Finkelstein, 1999; Lavie and Miller, 2008), with transferred experience at first impairing and then benefitting performance in the focal situation with increasing experience accumulation. At low levels of experience, firms are especially susceptible to negative experience transfer due to the overgeneralization of their prior experience. They misperceive similarities between their past experiences and the focal situation, and consequently inappropriately apply learnings from their past experiences to it, thereby causing deleterious performance effects. As firms accumulate more experience in the source context, they are better positioned to recognize areas of true similarity between their past experience and the focal situation. They are thus able to identify suitable learnings for transfer, which in turn positively impact performance in the focal activity. As firms continue to increase their experience, the firms further improve their abilities to distinguish

similarities between prior experience and the focal situations, as well as select learnings to transfer. This mechanism is consistent with the role of absorptive capacity in firms (Cohen and Levinthal 1990).

While the curvilinearity of the transfer relationship has been demonstrated only in situational, or context-to-context transfer, the underpinning mechanisms can be reasonably expected to be present in the case of activity-to-activity experience transfer. Thus:

*Hypothesis 1 (H1): Firm acquisition experience has a curvilinear relationship with divestiture performance. Specifically, it has a negative relationship at low levels of acquisition experience and a positive relationship at high levels of acquisition experience.*

Notably, in the case of acquisition-to-divestiture experience transfer, firms may well face a “double transfer problem” due to the need to transfer experience across not only activity, but context. As such, firms may require a large amount of acquisition experience to move from the realm of negative transfer to positive transfer.

In the moderating avenue for transfer, the firm’s transferred experience influences the relationship between the firm’s experience in the focal activity and its performance in the focal activity. As such, it shapes the way in which the firm learns from its own direct experience. In contrast to the direct transfer process described above, it is expected that the moderating effect of the transferred experience will at first benefit and then impair performance in the focal situation with increasing experience accumulation.

At low levels of experience in the source activity, the firm is receptive to its adaptation in order to suit the needs of the focal activity. Routines are malleable (Cohen and Bacdayan, 1994). Although modification for transfer does require effort and resources (Zander, 1991), at low levels

of experience there are fewer “sunk costs” of investment in the source activity that may deter willingness for change. Moreover the firm’s engagement in both the source and the target activities offers the benefits of distributed practice (Bingham et al., 2015). This avoids the competency traps associated with increasing specialization (Levinthal and March, 1993).

As firms accumulate more experience in the source activity, this moderating transfer path impairs performance in the focal activity. Extensive experience can cause routines and capabilities to become deeply rooted and inflexible. Managers have limits to their attention (Ocasio, 1997; Penrose, 1959), and those who are engaged in a high volume of acquisitions will not be motivated to take the deliberate steps needed to modify the acquisition experience for the divestiture context. Moreover, with more experience in the source activity, path dependence and increasing familiarity with the activity will cause firms to continue to put further emphasis on its execution (Argote, 1999; Levitt and March, 1988). To this end, researchers have demonstrated that firms will skew their corporate development activities towards one primary mode (Folta and Miller, 2002; Villalonga and McGahan, 2005). As this occurs, increasing specialization in the source activity will impair the efficacy of its transfer (Levinthal and March, 1993). This leads to the following hypothesis:

*Hypothesis 2 (H2): Firm acquisition experience moderates the relationship between firm divestiture experience and divestiture performance in a curvilinear way. Specifically, it positively moderates the relationship at low levels of acquisition experience and negatively moderates the relationship at high levels of acquisition experience.*

An illustration of the model proposed by the hypotheses is provided in Figure 3.

--- Insert Figure 3 here ---



### **3.3 METHODOLOGY**

#### **3.3.1 Data & Sample**

This study begins with a cross-industry sample of publicly-traded, U.S. headquartered parent firms that made at least one divestiture announcement from 1985-2010, which reflects 10,552 unique parent firms. Both their divestitures and acquisitions announced during this period are considered in the analysis. By definition, all divestitures represent a loss of majority control in the target unit. Similarly, in this paper, only acquisitions in which the firm acquires one hundred percent of the target in a single transaction (“full acquisitions”) are considered for the analysis. This ensures that the acquisitions and divestitures examined are comparably appropriate platforms from which to explore the theoretical mechanisms of interest in this paper. Data sources included the Thomson ONE M&A database for transaction information and Compustat and CRSP for firm and target information. Data were further hand-collected for one of the divestiture performance variables (*Gain-to-Assets*, described subsequently) using firms’ regulatory filings (e.g., the 10-K, 10-Q, and 8-K reports). Data for one of the instrumental variables used in this paper (*Restatements*, also described subsequently) stem from SEC financial reporting records. The sample and data are fully described in the “Data & Sample” section of Essay 1.

#### **3.3.2 Variables**

This research is focused on the potential for experience transfer between corporate strategic activities. Specifically, this paper investigates whether and how a firm’s acquisition experience may be associated with its divestiture performance. In order to fully explore this possible relationship, four dependent variables are used to measure divestiture performance. Each of these divestiture performance measures captures a different aspect of the divestiture process; the role of acquisition experience may vary across them. There are two primary independent variables, one that measures firm divestiture experience and another that measures

firm acquisition experience. A variety of control variables that capture both firm and unit characteristics are used to address possible alternative explanations. Variables that apply to the coarsened exact matching models and the Heckman selection model are later described in detail in the “Analyses and Results” section.

### 3.3.2.1 Dependent variables

Divestiture performance is the outcome of primary interest in this paper, and it is measured in four ways: *Announcement Date CAR*, *Completion*, *Duration*, and *Gain-to-Assets*.

First, *Announcement Date CAR*, a market-based measure of performance, reflects the firm’s cumulative abnormal returns (CAR) associated with the public announcement of the divestiture. The event study procedures used to calculate *Announcement Date CAR* are detailed in Essay 1. As in Essay 1, each firm’s risk-adjusted returns were estimated for a 250 day period starting 800 days prior to its divestiture announcement, and the firm’s abnormal returns were calculated over a three-day window around the date of the divestiture announcement.<sup>11</sup> A firm’s cumulative abnormal return (CAR) around an event date of interest is a commonly used market-based performance measure in the corporate strategy context (Alexander et al., 1984; Brauer, 2006; Feldman et al., 2014; Jain, 1985; MacKinlay, 1997). In the divestiture process, the firm’s announcement of its intent to divest a business unit is a major event. The announcement date marks the start of the divestiture process, after which the selling firm begins to disentangle and separate the unit from its operations. The firm’s actions at the start of the process help determine how well it is positioned to execute those that remain. These initial, stage-setting activities could include the likes of the disclosure of a targeted sale price, the engagement of outside experts (e.g. investment banks, consulting firms), communication initiatives about the divestiture to

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<sup>11</sup> Conclusions are robust to the use of an alternative 150-day estimation window [-515, -366] for the firm’s expected returns. Conclusions are also robust to the use of numerous alternative event windows (i.e. [-1, 0], [0, +1], [-2, +2], [-3, +3]) with both estimation windows.

stakeholders, and unit “ringfencing” (i.e. delineating which assets and resources will be included in the sale). The importance of announcement date is considerable in the divestiture process – since the costs of terminating a divestiture are substantive for the firm, the announcement signals the firm’s genuine commitment to the divestiture. Consequences to reversal of other corporate strategic intentions, such as plans to engage in an alliance or merger, are not as severe as in the divestiture case, and thus the firm’s commitment to the process at the time of announcement may be weaker in those cases versus that of divestiture. Announcement date is such a significant event in the divestiture process that announcement date-based CAR has been a dominant measure of divestiture performance in the strategy literature to date (Bergh et al., 2008; Colak and Whited, 2007; Comment and Jarell, 1995; Feldman, 2015; Hite and Owers, 1983, John and Ofek, 1995).

*Completion* is an indicator variable set equal to one if the divestiture transaction was completed, and set equal to zero if it was incomplete. Incomplete divestitures may result from situations such as the parent withdrawing the unit from sale due to a lack of interested buyers or the parent and acquirer failing to agree to final terms. Process completion is a fundamental measure of process performance that has served as an important outcome measure throughout the strategy literature, for processes as varied as acquisitions, new product launches, initial public offerings, and CEO succession (Dikova et al., 2010; Muehlfeld et al., 2012). In corporate strategy, failed processes (or, even more specifically, failed deals) involve significant financial, operational, and reputational costs (Bradley et al., 1983; Fabozzi et al., 1988). The impetus for process completion is especially salient in divestiture for selling firms. Divestitures that fail to complete are disastrous scenarios for the parent firm, since the units gain “damaged goods” or “passed over” reputations, making subsequent attempts at their divestiture difficult. In order to make another attempt at the unit’s sale, the parent firm may now have to invest in the unit to improve its prospects. Further, the parent’s bargaining position with potential buyers in subsequent negotiations is weakened, not only from the initial failure and the loss of a prospective

buyer, but also from a reduction in information asymmetry (and perhaps buyer willingness to pay) since due diligence information about the unit from the prior sale process may have diffused. Thus, divestiture completion is viewed in the trade as a fundamental divestiture process performance objective (cf. Gole & Hilger, 2008; Kelly, 2002; Smith, 2012).

*Duration* measures the elapsed time of the divestiture process, from the announcement date to the close date of the transaction, in units of days. Process duration is seen as a key process characteristic throughout the strategic management literature, in such contexts as project management, organizational change, technology development, and M&A (Eisenhardt and Tabrizi, 1995; Ethiraj et al., 2005; Homburg and Bucerius, 2006; Luypaert and De Maeseneire, 2015; McCrostle et al., 2015; Puranam et al., 2006; Schoonhoven et al., 1990). The longer the process takes, the longer that managerial and other firm resources are committed to the process and unavailable for other value-generating opportunities. Moreover, longer processes are more susceptible to losses and overruns than shorter ones, since employee turnover and forecasting challenges arise as material and potentially damaging issues to the process over time. Duration is similarly salient for the divestiture process. The complexities of divestiture, especially those associated with separating the unit from the parent firm, serve to exacerbate the lengthiness of its process duration. In divestiture, the deal process places the selling firm into a “holding pattern,” in which it is unable to move forward with its strategic plans until the divestiture is complete. This limbo-like period also creates uncertainty for internal stakeholders (e.g. employees, executive talent) and external stakeholders (e.g. customers, suppliers, investors), which can negatively impact firm operations and performance. Moreover, the longer the divestiture drags on, the more likely it is that the competitive value of the business unit’s assets will diminish (Baer, 1999). In sum, it is understandable that shorter divestiture processes are viewed as better than longer ones by industry practitioners and experts (cf. Clark et al. 2013, Gole & Hilger 2008, Ross et al. 2012).

Lastly, *Gain-to-Assets*, a financially-based performance variable, is a ratio calculated as the gain (or loss) on sale from the divestiture divided by the parent firm's total assets. Financially-based performance is a key process outcome in strategic management, although it is not always easy to measure. While metrics like process revenues and profitability are natural candidates, it can sometimes be challenging to obtain these results for processes that have an indirect impact on the bottom line, such as employee corporate training initiatives, corporate branding campaigns, and R&D. In other cases, even though the process-specific financials may be available, it can be difficult to translate them to firm financial impact, due to factors like corporate overhead costs (Ethiraj et al., 2005). As a result, the ways in which process financial performance may be meaningfully assessed varies widely throughout the strategic management literature, and may be specific to the process of interest. In the case of corporate transactions like divestitures and acquisitions, understanding how much money the firm made on the deal is valuable, and it tracks directly to the firm's execution of the process (Beckman and Haunschild, 2002; Haunschild, 1994; Laamanen, 2007). In acquisitions of public firms, the bid price may be translated into a share premium since the target firm has been valued by the financial market. Although such a valuation is not available for divestitures, the financial gain on sale provides a reasonable alternative (Kaplan and Weisbach, 1992). In divestiture, the financial gain (or loss) on sale is an audited number that the firm includes in its regulatory filings. Gain on sale reflects the difference between the unit's sale price and its fair market value. Thus, gain on sale represents the price premium associated with the divestiture. The higher the premium, the more value that the firm was able to capture throughout the divestiture process and the better that the firm was able to preserve (or even augment) the value of the unit during the process. Accordingly, gain on sale is a process-level outcome financial performance measure, not a firm-level one. Data for this variable were hand-collected from firms' regulatory filings for divestitures announced in 2005.

In addition to the divestiture performance variables, *Gain Disclosed* is another dependent variable that is used in conjunction with the Heckman selection models (described subsequently in the “Analyses and Results” section).

### **3.3.2.2 Independent variables**

The variables *Divestiture Experience* and *Acquisition Experience* reflect the cumulative count of divestiture and acquisition transactions, respectively, undertaken by the firm over the three years prior to the focal divestiture. Measuring experience within a window of the firm’s recent history is an approach that is frequently employed by strategic management researchers (Anand and Khanna, 2000; Beckman and Haunschild, 2002; Bergh and Lim, 2008; Brauer et al., 2014; Ellis et al. 2011; Fowler and Schmidt, 1989; Shimizu and Hitt, 2005). Evaluating recent experience is particularly appropriate when studying experience transfer. Inferences from the firm’s more recent experience are more relevant and readily accessible by the firm than are those from the firm’s more distant experience, and diminishing organizational memories may impair the efficacy of more distant learnings (Argote et al., 1990; Ingram and Baum, 1997; Levitt and March, 1988). Moreover, employee tenures in a particular role are not typically expected to last more than several years; unless transaction learning is thoroughly codified, attrition or internal relocation of employees involved in prior transactions would make inferences from those prior experiences unavailable for application to the focal transaction (Hayward, 2002; Levitt and March, 1988, Zollo and Winter, 2002). Furthermore, the use of a three-year experience window removes any empirical concerns due to potential left censoring of the transaction counts. Both complete and incomplete divestitures are included in the calculation of *Divestiture Experience* and *Acquisition Experience*, since firms still have the opportunity to learn from their experiences,

irrespective of whether the performance outcome is successful or not (Madsen and Desai, 2010; Muehlfeld, 2012).<sup>12</sup>

Additionally, *Segment Count* and *Restatements* are instrument variables that are used in the first stage of the Heckman selection models. These will be described in the discussion of the Heckman selection models in the “Analyses and Results” section.

### **3.3.2.3 Control variables**

The control variables are fully described in the corresponding section in Essay 1. One group of control variables controlled for a number of important characteristics of the parent firm, including its size (*ln(Total Assets)*), financial health (*Negative Net Income*, *Leverage*, *Tobin’s q*), management efficiency (*Return on Equity*) and diversification (*Herfindahl Index*). These variables are lagged by one year prior to the year of the divestiture announcement in order to reflect the state of firm prior to the initiation of the divestiture process. The second group of control variables served to characterize the relationship between the business unit and the parent firm. These included: *Unit-Parent Size Ratio*, *Unit-Parent Geographic Relatedness* and *Unit-Parent Industrial Relatedness*. Finally, *Divestiture Program* captures a key aspect of the parent firm’s divestiture operations.

## **3.4 ANALYSES AND RESULTS**

### **3.4.1 Descriptive Statistics**

Descriptive statistics and the correlation matrix for the variables used in the analyses are presented in Table 7. The descriptive statistics for *Divestiture Experience* show that firms engaged, on average, in 6.1 divestiture transactions over a three-year window. The median for *Divestiture Experience* is lower, at 2.0 divestiture transactions, suggesting that there are firms that

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<sup>12</sup>Results are consistent with the use of different experience windows (e.g., five-year windows) and to the inclusion of only completed transactions in the experience count.

are actively divesting and thus raising the average higher. The statistics for *Acquisition Experience* show that firms engaged in an average of 8.5 acquisition transactions over a three-year window. The median for *Acquisition Experience* is likewise lower, at 3.0 acquisition transactions. It bears repeating that only divestitures in which the parent loses majority control are included in these counts, as are only acquisitions in which the entire target organization was acquired.

*Divestiture Experience* shows a strongly significant correlation ( $p < 0.01$ ) with three of the divestiture performance variables (*Announcement Date CAR*, *Completion*, *Duration*), although the correlation is not in the direction hypothesized in H0 for any of the three relationships. The correlation between *Divestiture Experience* and *Gain-to-Assets* is not significant, and moreover is not in the direction hypothesized. Given the inconsistent expectations relating corporate development experience to performance in the extant literature, this result is not especially surprising and speaks to the importance of appropriate model specification. *Acquisition Experience* has a significant correlation ( $p < 0.01$ ) with only one of the divestiture performance variables (*Announcement Date CAR*). This correlation is negative; the sign of this average relationship aligns with the negative association that was hypothesized for low levels of acquisition experience in H1.

The descriptive statistics for the divestiture performance outcome variables show that seventy-seven percent of divestiture transactions completed and that these took, on average, fifty-one days to complete. Given the adverse consequences associated with incomplete transactions for firms, this completion rate is understandable. On average, parent firms see a gain (rather than a loss) on sale for a divestiture, corresponding to a mean *Gain-to-Assets* of 2.8%. The results for *Announcement Date CAR* indicate that the market on average responds favorably to a firm's



announcement of a divestiture transaction (with an average *Announcement Date CAR* of 0.9%).<sup>13</sup> Additionally, *Announcement Date CAR* was tested and found to be statistically different from zero at the one percent level of significance, further validating these results.

--- Insert Table 7 here ---

### 3.4.2 Model Specification

There are two regression models of central interest in this paper, which are used to test Hypothesis 1 and Hypothesis 2, respectively. These models are as follows:

Equation 1: Regression Model for Testing Hypothesis 1

$$(Y_{ij})_k = \beta_{k0} + \beta_{k1} \text{Divestiture Experience}_{ij} + \beta_{k2} \text{Acquisition Experience}_{ij} + \beta_{k3} (\text{Acquisition Experience}_{ij})^2 + \sum_{n=4}^{N(k)} (\beta_{kn} X_{ij(n-3)}) + (\epsilon_{ij})_k$$

Equation 2: Regression Model for Testing Hypothesis 2

$$(Y_{ij})_k = \beta_{k0} + \beta_{k1} \text{Divestiture Experience}_{ij} + \beta_{k2} \text{Acquisition Experience}_{ij} + \beta_{k3} (\text{Acquisition Experience}_{ij})^2 + \beta_{k4} (\text{Divestiture Experience}_{ij} \times \text{Acquisition Experience}_{ij}) + \beta_{k5} (\text{Divestiture Experience}_{ij} \times (\text{Acquisition Experience}_{ij})^2) + \sum_{n=6}^{N(k)} (\beta_{kn} X_{ij(n-5)}) + (\epsilon_{ij})_k$$

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<sup>13</sup> As noted earlier, these average CAR values were calculated using a 250-day estimation window with a 3-day event window ([-800, -551] and [-1, +1]) in the event study procedure. The average positive CAR results for announcement date are consistent across the estimation-event window combinations (using two estimation windows and five event windows, as described in the Variables section). Average *Announcement Date CAR* results ranged from 0.8% to 1.1%.

Wherein:

Y = divestiture performance	i = divestiture
X = control variable	j = parent firm
$\beta$ = constant coefficient	k = performance metric index
$\epsilon$ = error term	n = control variable summation index

The divestiture performance variable Y has four alternatives (*Announcement Date CAR*, *Completion*, *Duration*, *Gain-to-Assets*), and therefore the performance metric index k has a range of one to four. The models for *Completion*, *Duration*, and *Gain-to-Assets* include all ten control variables described earlier. The models for *Announcement Date CAR* use seven of the control variables. Since CAR is based on market performance, it was necessary to exclude any controls that are also based on market performance (*Leverage*, *Tobin's q*, and *Unit-Parent Size Ratio*) from the models using *Announcement Date CAR* as the dependent variable.

In Equation 1, the presence of the hypothesized curvilinear relationship between acquisition experience and divestiture performance will be tested using the quadratic term for *Acquisition Experience*. The linear and quadratic terms of *Acquisition Experience* will together be used to test the specific characteristics of the posited relationship (i.e. negative at low levels and positive at high levels of acquisition experience). In Equation 2, the two interaction terms (between *Divestiture Experience* and each of the linear and quadratic terms of *Acquisition Experience*) will be used to test the hypothesized moderating role that acquisition experience may play in the relationship between divestiture experience and divestiture performance. It bears highlighting that to properly test for the hypothesized direct relationship between acquisition experience and divestiture performance in Hypothesis 1, it would not be appropriate to examine the linear and quadratic terms of *Acquisition Experience* in Equation 2. Attempting to use Equation 2 to do so would only provide the conditional effect of *Acquisition Experience* on divestiture performance (i.e. technically reflecting the case of zero *Divestiture Experience*). In

contrast, the estimation of Equation 1 (which does not have interaction terms) provides the main effect of *Acquisition Experience* on divestiture performance  $Y$ .

Ordinary least squares (OLS) regression is used to estimate the models for *Announcement Date CAR*. Logistic regression is used to estimate the models for *Completion*, as *Completion* is a binary outcome variable. Negative binomial regression is used to estimate the models for *Duration*. Negative binomial regression can help to correct for overdispersion in models with count outcome variables. In all regressions, industry fixed effects (based on the parent firm's primary 2-digit SIC code) are included to control for all stable industry characteristics (both observable and unobservable) that may drive divestiture performance. Year fixed effects are also used throughout, except in the regression for *Gain-to-Assets* (since all observations correspond to divestitures announced in 2005). Year fixed effects are included to control for macroeconomic conditions that may influence divestiture performance results.<sup>14</sup>

Lastly, coarsened exact matching procedures are used to address non-random selection in the divestiture decision, and a two-stage Heckman selection model is used to control for a possible selection issue with *Gain-to-Assets*. These are discussed in the sections that follow.

### **3.4.3 The Choice to Divest**

At its heart, this paper explores drivers of divestiture performance heterogeneity. An obvious prerequisite for divestiture performance is the firm's decision to engage in divestiture. However, there may be non-random selection associated with the firm's decision to divest, which

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<sup>14</sup> While firm fixed effects would provide the strongest identification, this approach causes firms that have divested only once (corresponding to 4095 observations) to be dropped from the analysis. Additionally, for the regression for *Gain-to-Assets*, firms which engaged in only one divestiture in 2005 (the year for which *Gain-to-Assets* data is available) would similarly be dropped from the analysis. Furthermore, for the regression for *Completion*, firms which had no variation in their completion performance (i.e. all completed divestitures or all incomplete divestitures) would also be dropped from the analysis. As an alternative, robust standard errors clustered by firm are used with all regressions. This serves to help address the potential for systemic firm idiosyncrasies that may be influencing divestiture process performance.

could, in turn, bias the firm's divestiture performance results. Coarsened exact matching procedures are used to address this possibility.

The procedure is the same as described in Essay 1. Here, as in Essay 1, potential bias stemming from two choices -- both the firm's decision to divest and also the firm's decision to divest a particular business unit -- are considered.

To start, the first stage probit regression was used to estimate the propensity of a firm to divest a particular business unit (i.e. one that is operating in a particular industry) in a certain year. Business segment data from Compustat was used to proxy for the firm's business units. The binary dependent variable was *Opportunity Taken*, which is equal to one if the firm had a business segment operating in a certain industry in a certain year and also decided to divest it. It is equal to zero if the firm had a business segment operating in a certain industry in a certain year (thus it had the opportunity to make a divestiture in this industry), but did not make any divestitures in that segment's industry. Business segment data was obtained from Compustat. Strict standards for coarsening were imposed on a variety of firm characteristics, including assets, revenues, net income, and leverage. Exact matches were required for year (of divestiture announcement) and business unit industry (at the 2-digit SIC level). The strata bands for the continuous firm characteristics variables were set on a percentile basis (i.e. minimum-p1-p5-p25-p50-p75-p95-p99-maximum). This stringency helped to ensure sharp, high quality matches. The treated observations that were members of treated-control matched pairs were then used in the second stage regression, which estimated divestiture performance. This regression was repeated for each of the four divestiture performance variables. Results were consistent with those of the baseline regression results (Model 1 in Table 8, Table 9, Table 10, and Table 11). A comparison between the regression results using the full sample versus the CEM sample (Table 14 in the Appendix) illustrates the robustness of the results to controlling for non-random selection in the firm's decision to divest a particular business unit.

**--- Refer to Appendix Table 14 here ---**

The coarsened exact matching process was repeated to address the issue of non-random selection stemming from the firm's decision to divest in a particular year. This non-random selection issue (the firm's choice to divest at all in a particular year) is more general than the discussed above (the firm's choice to divest a business unit operating in a particular industry in a particular year). Here, the dependent variable used in the first stage was *Divested*, which is equal to one if the firm divested in a particular year, and zero otherwise. The variables used in the first stage regression model are the same with the exception of the industry variable, which here is the 2-digit SIC code of the parent firm. The coarsening and regression procedures were the same as in the case above. Results were again consistent with those from the full sample (Model 1 in Table 8, Table 9, Table 10, and Table 11).

While this paper is premised on exploring drivers of divestiture performance heterogeneity, it further considers the role that firm acquisition experience may play in shaping divestiture performance. Embedded in firm acquisition experience is the firm's choice to acquire. Ideally, the treated observations that were members of treated-control matched pairs from the divestiture-based coarsened exact matching would then be put through a second coarsened exact matching procedure that was designed to address the firm's decision to acquire. Operationally, performing this two-step coarsened exact matching process is not feasible. The industry segments that are in play for the divestiture matching are not the same as those candidates for the acquisition matching, which severely limits the sample and overwhelms the matching attempts. While addressing the decision to acquire would have been a useful robustness check, this paper is fundamentally about divestiture, and the firm's decision to divest. Hence, the results of the coarsened exact matching procedures that were successfully performed provide valuable confirmation of the efficacy of the results.

### 3.4.4 Heckman Selection Model

As described in Essay 1, there is a potential selection problem associated with the *Gain-to-Assets* divestiture performance variable since the firm has some discretion in terms of whether and how it reports the gain (or loss) on the divestiture sale in its regulatory filings. A Heckman selection model is used to address the possibility of any resultant selection bias.

The first stage of the two-stage Heckman selection model uses *Gain Disclosed* as its binary dependent variable, and predicts the firm's disclosure of the divestiture's gain on sale. The second stage of the model estimates the OLS regression with *Gain-to-Assets* as the dependent variable. Two instrumental variables are used in the first stage model: *Segment Count*, which is equal to the number of the firm's business segments reported by the firm in the year prior to the divestiture announcement; and the binary *Restatements*, which is equal to one when the parent firm operates in an industry that is characterized as having firms that issue a high number of restatements of their financial reports filed with the SEC.

Firms with more segments are high-disclosure firms relative to firms with fewer segments, and it is expected that such "high disclosure" firms are more likely to explicitly report the gain on sale associated with their divestitures. Therefore, as *Segment Count* increases, the likelihood that the firm will report the gain on sale also increases, but there is no reason to expect that *Segment Count* should be correlated with the divestiture's gain on sale in the *Gain-to-Assets* ratio. Likewise, firms that are subject to restatement requirements (wherein the restatements were due to major issues that rendered the firm's financials unreliable) are more likely to be aggressive in their accounting approaches than others. Firms that are members of high restatement industries are thus less likely to report the gain on sale associated with their divestitures than those which are not. However, whether or not the firm is a member of a high-disclosure industry has no bearing on the gain (or loss) realized on the divestiture sale itself, and therefore *Restatements* is not expected to be correlated with *Gain-to-Assets*.

The results for the Heckman selection model are presented in Table 12 and are discussed in the next section. As will be seen, there is no evidence to suggest that selection bias is an issue in the *Gain-to-Assets* regression results.

### 3.4.5 Hypothesis Testing

The OLS regression results for *Announcement Date CAR* are presented in Table 8. The logit model regression results for *Completion* are provided in Table 9. The negative binomial regression results for *Duration* are provided in Table 10. The OLS regression results for *Gain-to-Assets* are presented in Table 11. In each of these tables, for its respective divestiture performance measure, Model 1 may be used to test the baseline hypothesis H0, Model 6 may be used to test H1, and Model 7 may be used to test H2. The tables are constructed such that the simplest model (for testing H0) is illustrated first. Key model components are then added in a step-by-step fashion, culminating in the models used to test H1 and H2.

--- Insert Table 8, Table 9, Table 10, and Table 11 here ---

It merits highlighting that, for the *Duration* performance regressions (Table 10), a decrease in the duration of the divestiture process is interpreted as a positive performance result, since firms typically want divestiture transactions to close as quickly as possible. For the other three performance variables, positive increases (e.g. a larger *Announcement Date CAR*) are viewed as beneficial improvements in performance.

The units of measurement used in the regression results also deserve special mention. Since OLS was used to estimate the models for *Announcement Date CAR* and *Gain-to-Assets*, the estimated coefficients in Table 8 and Table 11 are measured in the units of the outcome variable divided by the units of its predictor variable. In contrast, since logistic regression was used to estimate *Completion*, the estimated coefficients in Table 9 are measured in units of log-odds. These coefficients may be converted into odds ratios through exponentiation. Furthermore, since

negative binomial regression was used to estimate *Duration*, the estimated coefficients in Table 10 are interpreted as a difference between the logs of the expected counts (i.e. duration days) for a unit change in the associated predictor variable. These coefficients may be converted into incidence rate ratios (IRR) through exponentiation.

To start, the baseline hypothesis H0 predicts that there is a positive relationship between firm divestiture experience and divestiture performance. H0 is supported when considering divestiture performance measured as *Announcement Date CAR* ( $p < 0.05$ , Model 1 of Table 8), as *Duration* ( $p < 0.01$ , Model 1 of Table 10), and as *Gain-to-Assets* ( $p < 0.05$ , Model 1 of Table 11). As for *Completion*, although the coefficient estimate for *Divestiture Experience* is significant ( $p < 0.01$ ), its sign is negative (as opposed to the predicted positive sign). Rather than benefitting divestiture completion performance, this result suggests that divestiture experience is actually harmful -- a one-unit increase in *Divestiture Experience* corresponds to a 0.0117 decrease in the log-odds of *Completion*.

Hypothesis 1 (H1) predicts that firm acquisition experience has a curvilinear relationship with divestiture performance. Even more precisely, H1 predicts that firm acquisition experience has a negative relationship with divestiture performance at low levels of acquisition experience, and a positive relationship at high levels of acquisition experience. As a first step in testing H1, it is useful to return to the equation for the regression model, Equation 1. It is restated here in a simplified format as Equation 3:

Equation 3: Simplified Format of the Regression Model for Testing Hypothesis 1

$$Y = \beta_0 + \beta_1 \text{Divestiture Experience} + \beta_2 \text{Acquisition Experience} + \beta_3 (\text{Acquisition Experience})^2 + \sum_{n=4}^N (\beta_n X_{(n-3)}) + \epsilon$$



Wherein:

- Y = divestiture performance
- X = control variable
- $\beta$  = constant coefficient
- $\epsilon$  = error term
- n = control variable summation index

The partial derivative of Equation 3 with respect to *Acquisition Experience* is:

Equation 4:

$$\frac{\partial Y}{\partial (Acq. Exp.)} = \beta_2 + 2\beta_3 (Acquisition Experience)$$

The second derivative of Equation 3 with respect to *Acquisition Experience* is:

Equation 5:

$$\frac{\partial^2 Y}{\partial (Acq. Exp.)^2} = 2\beta_3$$

The presence of curvilinearity predicted in H1 is readily tested through examination of the second derivative in Equation 5. Curvilinearity is present if  $\beta_3 \neq 0$ . However, H1 further predicts the nature of the relationship (i.e. negative and then positive) between acquisition experience and divestiture performance. To test this aspect of H1, the partial derivative in Equation 4 is required. Here,  $\beta_2$  is the slope of the relationship between *Acquisition Experience* and divestiture performance Y, while  $2\beta_3$  is the rate of change of the slope and is proportional to the curvature. Both  $\beta_2$  and  $\beta_3$  may be positive or negative, leading to four types of curvilinear relationships. These are illustrated in Figure 4. The relationship posited in H1 is represented by the curve where  $\beta_2 < 0$  and  $\beta_3 > 0$  for *Announcement Date CAR*, *Completion*, and *Gain-to-Assets*. Since shorter durations are viewed as better performance, the relationship posited in H1 is represented by the curve where  $\beta_2 > 0$  and  $\beta_3 < 0$  for *Duration*.

--- Insert Figure 4 here ---

Turning to the regression results, Model 6 in Table 8 (*Announcement Date CAR*), in Table 9 (*Completion*), in Table 10 (*Duration*), and in Table 11 (*Gain-to-Assets*) each correspond to Equation 3 above. Starting with *Announcement Date CAR*, Model 6 in Table 8 shows that neither the coefficient estimate  $\beta_2$  for *Acquisition Experience* nor the coefficient estimate  $\beta_3$  for the quadratic *Acquisition Experience* predictor are significant, although their signs are in the directions predicted. In contrast, for *Completion* (Model 6 of Table 9), the curvilinearity predicted in H1 is supported, as the coefficient estimate  $\beta_3$  for the square of *Acquisition Experience* is non-zero and significant ( $\beta_3=0.0001$ ,  $p<0.05$ ). Further, the predicted directionality of the relationship between acquisition experience and completion performance is supported, as the coefficient  $\beta_2$  for *Acquisition Experience* is negative ( $p<0.05$ ) and  $\beta_3$  for the square of *Acquisition Experience* is positive ( $p<0.05$ ). To further test the significance of the relationship, a joint test between the linear and quadratic terms was performed; the significant result ( $p<0.05$ ) evidences that both terms have a significant effect on *Completion*. Thus, H1 is supported for *Completion*.

Interestingly, while the predicted curvilinearity is supported for *Duration* ( $\beta_3 \neq 0$ ,  $p<0.01$ ) in Model 6 of Table 10, the nature of the relationship is in fact opposite of that which was predicted in H1. Since longer durations reflect poorer performance and shorter durations reflect better performance, the estimated coefficients ( $\beta_2=-0.0053$ ,  $p<0.10$ ;  $\beta_3=0.0001$ ,  $p<0.01$ ) indicate that *Acquisition Experience* actually has a positive relationship with *Duration* at low levels of *Acquisition Experience* and a negative relationship with *Duration* at high levels of *Acquisition Experience*. Again, a joint test between the linear and quadratic terms was performed to further confirm the relationship; the significant result ( $p<0.01$ ) evidences that both terms have a significant effect on *Duration*. Thus, H1 is only partially supported when divestiture performance is measured as *Duration*. Lastly, for *Gain-to-Assets*, although the signs of  $\beta_2$  and  $\beta_3$  are in the

directions predicted, neither  $\beta_2$  nor  $\beta_3$  are significant in Model 6 of Table 11. H1 is therefore unsupported for *Gain-to-Assets*.<sup>15</sup>

Results for H1 are summarized in Table 13.

Next, Hypothesis 2 (H2) predicts that firm acquisition experience positively moderates the relationship between firm divestiture experience and divestiture performance at low levels of acquisition experience, and negatively moderates the relationship at high levels of acquisition experience. Here again, it is useful to return to the equation for the regression model Equation 2 before testing the hypothesis. The model is restated here in a simplified format as Equation 6:

Equation 6: Simplified Format of the Regression Model for Testing Hypothesis 2

$$Y = \beta_0 + \beta_1 \text{Divestiture Experience} + \beta_2 \text{Acquisition Experience} + \beta_3 (\text{Acquisition Experience})^2 + \beta_4 (\text{Divestiture Experience} \times \text{Acquisition Experience}) + \beta_5 (\text{Divestiture Experience} \times (\text{Acquisition Experience})^2) + \sum_{n=6}^N (\beta_n X_{(n-5)}) + \epsilon$$

Wherein:

- Y = divestiture performance
- X = control variable
- $\beta$  = constant coefficient
- $\epsilon$  = error term
- n = control variable summation index

The partial derivative of Equation 6 with respect to *Divestiture Experience* is:

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<sup>15</sup> As will be discussed, H1 is still unsupported after controlling for the effects of non-random selection in the firm's disclosure of the gain on sale.

Equation 7:

$$\frac{\partial Y}{\partial(\text{Div. Exp.})} = \beta_1 + \beta_4(\text{Acquisition Experience}) + \beta_5(\text{Acquisition Experience})^2$$

The hypothesized moderating role of *Acquisition Experience* in the relationship between *Divestiture Experience* and divestiture performance Y is easily tested using the partial derivative in Equation 7. Here,  $\beta_4$  represents the slope of the relationship between *Acquisition Experience* and the partial derivative of performance Y with respect to *Divestiture Experience* ( $\frac{\partial Y}{\partial(\text{Div. Exp.})}$ ), while  $\beta_5$  is the rate of change of the slope and is proportional to the curvature. Both  $\beta_4$  and  $\beta_5$  may be positive or negative, leading to four types of curvilinear relationships. These are illustrated in Figure 5. The moderating relationship posited in H2 is represented by the curve where  $\beta_4 > 0$  and  $\beta_5 < 0$  for *Announcement Date CAR*, *Completion*, and *Gain-to-Assets*. Again, since shorter durations are viewed as better performance, the relationship posited in H2 is represented by the curve where  $\beta_4 < 0$  and  $\beta_5 > 0$  for *Duration*.

--- Insert Figure 5 here ---

It bears highlighting that the curves depicted in Figure 5 have  $\frac{\partial Y}{\partial(\text{Div. Exp.})}$  on the y-axis. Another way to visualize the impact of the moderating role that *Acquisition Experience* may be playing is to consider, for different values of *Divestiture Experience*, the relationship between *Acquisition Experience* and divestiture performance Y – in other words, to graph Equation 6, wherein performance Y would be on the y-axis. Figure 6 presents the simplified case where  $\beta_1 = 0$ . Alternatively,  $\beta_1 > 0$  in Figure 7, and the curves shift vertically accordingly. The moderating relationship posited in H2 is again represented by the case where  $\beta_4 > 0$  and  $\beta_5 < 0$  for *Announcement Date CAR*, *Completion*, and *Gain-to-Assets*. For *Duration*, it is represented by the case where  $\beta_4 < 0$  and  $\beta_5 > 0$ .

--- Insert Figure 6 and Figure 7 here ---

As for the regression results, Model 7 in Table 8 (*Announcement Date CAR*), in Table 9 (*Completion*), in Table 10 (*Duration*), and in Table 11 (*Gain-to-Assets*) are used to test H2. The results in Table 8 for *Announcement Date CAR* show that the moderating relationship is indeed curvilinear, and, as hypothesized, has positive slope ( $\beta_4 > 0$ ;  $p < 0.01$ ) and negative curvature ( $\beta_5 < 0$ ;  $p < 0.05$ ). The significance of the interaction terms in Equation 6 was further evidenced though a joint test of the coefficients ( $p < 0.01$ ). H2 is therefore supported for *Announcement Date CAR*. For *Completion*, although the slope of the moderating relationship is positive and significant ( $\beta_4 = 0.0005$ ;  $p < 0.01$ ), there is no evidence of curvilinearity ( $\beta_5$  is insignificant) in Model 7 of Table 9. The relationship between *Acquisition Experience* and  $\frac{\partial Y}{\partial (Div. Exp.)}$  is simply positive and linear. A joint test further confirmed the significance of this linear relationship ( $p < 0.01$ ) in Equation 6. H2 is thus partially supported for *Completion*.

Turning to the results for *Duration* in Model 7 of Table 10, it is seen that the relationship between *Acquisition Experience* and  $\frac{\partial Y}{\partial (Div. Exp.)}$  is curvilinear as hypothesized, but has positive slope ( $\beta_4 > 0$ ;  $p < 0.01$ ) and negative curvature ( $\beta_5 < 0$ ;  $p < 0.01$ ). A joint test was again used to confirm the significance of the interaction terms ( $p < 0.01$ ) in Equation 6. Keeping in mind that longer durations are viewed as performance-impairing, these results suggest that acquisition experience negatively moderates the relationship between firm divestiture experience and divestiture performance across both low and high levels of acquisition experience. Thus, H2 is partially supported for *Duration*.

Lastly, in Model 7 of Table 11 for *Gain-to-Assets*, the results support the hypothesized curvilinear relationship between *Acquisition Experience* and  $\frac{\partial Y}{\partial (Div. Exp.)}$ , with positive slope

( $\beta_4=0.0004$ ;  $p<0.10$ ) and negative curvature ( $\beta_5<0$ ;  $p<0.05$ ). These results therefore support H2. However, there is the possibility that these results are biased due to non-random selection in the firm's decision to disclose the gain on sale. This possibility is tested (and confirmed to not be an issue, as per Table 12) in the next section.

Results for H1 and H2 are summarized in Table 13.

--- Insert Table 13 here ---

### **3.4.6 Robustness Test – Controlling for Non-Random Selection in Gain on Sale Disclosure**

The regression results for *Gain-to-Assets* in Table 11 may be biased as a result of possible non-random selection in the firm's decision to disclose the gain on sale. A two-stage Heckman selection model (Table 12) is used to address this potential bias. In this model, the first stage regression (Model A-1) predicts disclosure of the gain on sale (used in the calculation of *Gain-to-Assets*), and the second stage estimates the OLS regression with *Gain-to-Assets* as the dependent variable (Models 1-7).

--- Insert Table 12 here ---

Notably, the two instrumental variables in Model A-1, *Segment Count* and *Restatements* are both significant ( $p<0.01$  and  $p<.10$ , respectively). Moreover, the coefficient of *Segment Count* is positive (indicating that an increase in *Segment Count* corresponds to an increase in the likelihood of *Gain Disclosed*), which is as expected. The coefficient of *Restatements* is negative (indicating that firms that are members of high restatement industries are less likely to disclose the gain on sale than those firms which are not members of high restatement industries), which is also as expected. Additionally, the combination of these two instruments passes the overidentification test ( $\chi^2 = 10.19$  with  $p<0.01$ ), further supporting the validity of the instruments. These combined results make a compelling case for the strength and appropriateness of *Segment Count* and *Restatements* as instrumental variables in this Heckman selection model.

Furthermore, a comparison of the second stage coefficient estimates in Models 1-7 of Table 12 with those of the original OLS regression models in Table 11 shows excellent consistency in the significance of the independent variables and interaction terms across the models. Overall, the magnitude of the second stage Heckman selection model estimates tend to be somewhat larger than those in the original OLS regression. These results suggest that non-random selection on *Gain Disclosed* is not biasing the regression results. Lastly, *Lambda* (i.e. the inverse Mills Ratio) is not significant in any of the second stage models (Models 1-7). This further evidences that selection bias is not an issue for the *Gain-to-Assets* results. Therefore, overall, even after controlling for the effects of non-random selection, the original conclusions still stand: H0 is supported, H1 is unsupported, and H3 is supported when divestiture performance is measured as *Gain-to-Assets*.

### **3.5 DISCUSSION**

This paper explores the potential for experience transfer within firms. It focuses on “task-to-task,” or “activity-to-activity” transfer, and considers if experience gained in a firm’s execution of one activity is transferable to its execution of another. Specifically, this research examines whether and how a firm’s acquisition experience may influence its divestiture performance. Two primary avenues for experience transfer are considered: direct and moderating. In the first, the firm’s acquisition experience is directly applied to its execution of divestiture. Stated differently, this path represents the question of whether a firm’s learning how to acquire directly impacts its implementation of divestiture. In the second, the transfer of the firm’s acquisition experience moderates the relationship between the firm’s divestiture experience and its divestiture performance. This path for transfer surfaces the issue of whether a firm’s learning how to acquire impacts its learning how to divest.

The results reveal five key insights:

1. Experience transfer from acquisition to divestiture occurs in both a direct and a moderating way, although not consistently and not always in the manner expected.
2. These transfer processes are often curvilinear, indicating that acquisition experience transfer can be beneficial and detrimental to divestiture.
3. Viewed together, the results for the four performance variables reveal that tradeoffs between them are unavoidable.
4. At times, acquisition experience was found to have a comparable or even greater association with divestiture performance than divestiture experience itself.
5. Evidenced via statistical significance, the transfer relationships between acquisition and divestiture are frequently strong, suggesting the importance of their concurrent rather than separate consideration.

The rationale for each of these insights will be provided in turn in the remainder of this section, along with their implications. Interpretation and discussion will draw upon graphical illustration of the regression model results as well as the tables themselves.<sup>16 17</sup>

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<sup>16</sup> Consideration of significance of estimated coefficients is an important component of evaluation of hypothesis support, although it is not the only one. As indicated in the tables, this paper uses a minimum cutoff of significance at the 10% level, and the figures used in this discussion depict only significant coefficients from the models. Stated differently, these figures assume the coefficients of the insignificant terms to be at zero. In actuality, these coefficients may be non-zero. As such, the figures that include the full model, irrespective of the significance of coefficient estimates, are included in the Appendix (**Figure 13, Figure 16, Figure 19, and Figure 20**).

<sup>17</sup> Since there was overwhelming evidence that selection bias due to firm disclosure of the gain on sale was not biasing the results, the original OLS results for *Gain-to-Assets* are the primary reference in this discussions. These models are depicted in the graphs. Graphs using the second stage Heckman Selection model results are included in the Appendix (**Figure 15, Figure 18, Figure 23, and Figure 24** for models which include only significant terms; and **Figure 14, Figure 17, Figure 21, and Figure 22** for models which include all terms, significant and insignificant).



--- Insert Figure 8, Figure 9, Figure 10, and Figure 11 here ---

1. *Experience transfer from acquisition to divestiture occurs in both a direct and a moderating way, although not consistently and not always in the manner expected.*

As illustrated in Figure 8, the relationship between *Acquisition Experience* and *Completion* is a case of direct experience transfer where the effects are as hypothesized, wherein acquisition experience impairs divestiture completion performance at low levels of experience and improves it at high levels. Interestingly, while the rate of impairment does indeed start to slow with more acquisition experience, the large majority of firms would not experience its positive direct transfer benefits, since the transition from negative to positive (at the curve's minimum) occurs well after sixty, which is comfortably beyond typical acquisition experience levels.

Performance measured as deal duration exemplifies a case where direct transfer occurs, but does not occur in the manner expected. While an inverted U-relationship was hypothesized, Figure 8 shows the reverse, with acquisition experience benefitting divestiture performance at lower levels of acquisition experience (until the curve's minimum, at ~50 acquisitions) and then impairing it at the higher levels. For the cases of performance measured as *Announcement Date CAR* and *Gain-to-Assets*, there is no apparent direct transfer of acquisition experience to divestiture performance (or it plays a neutral role). This neutral effect (or non-effect) is demonstrated by the horizontal curves depicted in Figure 8, which stand in contrast to the upside-down U shapes that were hypothesized. In both cases, the curves shift upwards as divestiture experience increases.

The mixed results are also apparent in the results for the moderating transfer relationship. In Figure 10, the partial derivative of divestiture performance with respect to *Divestiture Experience* has the predicted inverted-U shape for both *Announcement Date CAR* and *Gain-to-*

*Assets* but the shape of the curvilinearity runs counter to predictions for *Duration*. Further, the relationship for completion is not in the manner hypothesized, as it is strictly positive.

An important implication of this insight is the importance of considering both the direct and moderating paths to transfer. The direct mechanism in activity-based transfer has been considered in only a handful of studies to date (Nadolska and Barkema 2007; Zollo and Reuer, 2010), where alliance-to-acquisition and joint venture-to-acquisition experience transfers were considered. As such, these studies considered transfer between processes that may be categorized along the spectrum of scope expansion activities. In this research, the consideration of acquisition-to-divestiture continues with and contributes to the approach of considering transfer between core strategic activities. However, this research further introduces a new lens on the phenomenon, as the activities reflect two distinct, and oppositional, firm requirements – to grow and to shrink. The inconsistencies in the results may reflect the fact that, while the task-based similarities between scope expansion and scope contraction is sufficient for transfer for some aspects of the activities, they are not for others (suggested by the non- or neutral transfer effects). Moreover, the evidence for negative transfer effects suggests that challenges to learning, such as inappropriate generalization, are in play.

The moderating transfer effect, wherein the transfer of acquisition experience serves to moderate the relationship between divestiture experience and divestiture performance, has not previously been considered in the intra-firm experience transfer literature. As the results serve to validate the efficacy of this learning path, and given the power of their implications – that learning in one activity can influence the learning process of another -- clearly merits future scholarly consideration.

2. *These transfer processes are often curvilinear, indicating that acquisition experience transfer can be beneficial and detrimental to divestiture.*

Both the results for *Completion* and *Duration* demonstrate curvilinearity in their direct transfer relationships. The contour plots of Figure 9 show that lower levels of acquisition

experience are associated with higher likelihood of completion, with the curvilinear effect evidenced by the varying distance between the horizontal contour lines. For *Duration*, Figure 9 shows that high acquisition experience and high divestiture experience is the most desirable combination until the curve minimum, after which it will diminish. For any given level of divestiture experience, acquisition experience of approximately fifty gives the shortest duration.

Curvilinearity is demonstrated in the moderating transfer relationships for divestiture performance measured as *Announcement Date CAR*, *Duration* (although not in the direction hypothesized), and *Gain-to-Assets*. The transition points (e.g. from a positive to a negative relationship or the reverse) are visible in Figure 10: ~60 for *Announcement Date CAR* (at which point a relatively flat, or neutral period begins), ~50 for *Duration*, and ~35 for *Gain-to-Assets*. Notably, each of these transition points are on the high end of typical acquisition experience, but are still possible nonetheless. Thus, firms may experience a “flip” in the way in which acquisition experience is associated with the relationship between divestiture experience and divestiture performance.

The frequent presence of curvilinear transfer relationships in these results brings the double-edged sword of experience into sharp relief (Levinthal and March, 1993). While there are tangible performance benefits stemming from the transfer of the firm’s acquisition experience (in both the direct and moderating paths), the consequences are palpable as well. Indeed, transfer represents the potential for a non-result (i.e. a failure to transfer), the potential for transfer to occur in a performance-enhancing way (i.e. transfer occurs and the experience is properly applied), and also the potential that the transfer will occur but in a performance-harming way (i.e. transfer occurs, but is mis-transferred and inappropriately applied). The curvilinearity in the results illustrate how experience can be both a hero and a villain in organizational learning. The firm’s own experience can both help and hurt its performance.

Furthermore, considering and investigating a curvilinear moderating relationship in this organization learning context proved to yield valuable insights. These results suggest that, rather than simply assuming a linear relationship, the possibility for the presence of curvilinear moderating relationships merits ongoing consideration.

3. *Viewed together, the results for the four performance variables reveal that tradeoffs between them are unavoidable.*

Regarding the direct transfer relationship, there is a tradeoff between *Completion* and *Duration* performance. This is perhaps most easily seen in Figure 8. For acquisition experience of less than about fifty, acquisition experience impairs completion performance but it benefits duration acquisition performance. Over fifty, there is a zone where they are both harmful to divestiture performance at the same time. Both negative relationships persist until extremely high levels of acquisition experience, at which the experience-completion performance relationship flips to become a positive one.

The performance tradeoffs present in the moderating transfer relationships are nicely illustrated by the contour plots of Figure 11. Each plot demonstrates a “zone of goodness” – depicted by reddish hues (except in the *Duration* case, in which the blue-hued, shorter duration zones are desired) – that reflects the best combination of acquisition and divestiture experience for each performance measure. These zones of goodness are not consistent across the performance measures – thus revealing the tradeoffs. For *Announcement Date CAR*, the zone of goodness is “high-high,” or high divestiture experience and high acquisition experience. For *Duration*, the zone is “low-high,” or low acquisition experience and high divestiture experience. Thus, if short divestiture durations are truly the goal, firms should avoid acquisition experience but extensively engage in divestiture. For *Gain-to-Assets*, the zone of goodness is at a “high-high” combination of acquisition and divestiture experience.

The case of *Completion* merits some additional examination. The contour plot of Figure 11 reveals that, within the bands of typical operation, the “low-low” zone is the zone of goodness.

Connecting the contour plot to the derivative plot in Figure 10, it is shown that, initially, at low levels of acquisition experience, the effect of acquisition experience is insufficient to push the relationship between divestiture experience and completion performance out of the negative region. Although acquisition experience is indeed playing a performance-benefitting role at low levels of acquisition experience (i.e. it is helping divestiture experience help make divestiture performance become positive), it is not able to “help” enough to push *Completion* performance positive. However, above acquisition experience of ~37, (the zero line on the y-axis in the derivative chart, Figure 10), the assistance provided by acquisition experience is enough to make divestiture experience help completion performance become positive. This transition at acquisition experience of ~37 is also visible in the contour plot of Figure 11. At low levels of acquisition experience (which is below 37), as divestiture experience increases, *Completion* performance declines. At high levels of acquisition experience (above 37), acquisition experience is able to help the relationship between divestiture experience and completion performance enough such that the relationship between *Divestiture Experience* and *Completion* is positive. The schematic of Figure 12 illustrates this moderating effect.

--- Insert Figure 12 here ---

The tradeoffs that underpin this insight suggest some critical implications. For one, experience transfer is a nuanced process. Here, the use of a set of performance measures that reflects different aspects of the transfer process greatly facilitated an examination of experience transfer that was richer than would have been possible without a holistic consideration of process performance. This suggests that learning transfer must be examined through a variety of lenses in order to unpack its mechanisms in a truly comprehensive way. For another, these tradeoffs reveal a complex scenario for managers to navigate. Although the order of prioritization for achieving these performance metrics varies by firm, managers still have to address their competing tensions.

Exacerbating the challenge, any compromises that managers may have developed can change with changing levels of acquisition and divestiture experience. A shift to high intensity scope change activity will change the nature of the performance tradeoffs that have to be made. Interestingly, with the rise of activist investors and the corporate adoption of a private equity mindset, some firms may opt emulate the rapid, high frequency acquisition and divestiture levels observed in transaction-oriented firms. It is useful for managers who intend to engage in such activity to recognize that such a shift has learning-oriented performance ramifications.

4. *At times, acquisition experience was found to have a comparable or even greater association with divestiture performance than divestiture performance itself.*

The potential power of experience transfer is underscored by the fact that transferred experience can, at times, play an equivalent or even a larger role than the firm's own experience in the focal activity. In the case of *Duration* performance, the results of Model 6 in Table 10 show that the effects of divestiture experience and acquisition experience are on the same order of magnitude. For *Completion* performance, the results of Model 6 in Table 9 show that the effects appear to supersede those of divestiture experience (i.e., *Divestiture Experience* is insignificant while the acquisition experience terms are not, and, further, has a magnitude that is comparatively lower by a factor of three). This effect is seen visually in the fact that only a single curve is represented in Figure 8 -- there is no shift due to any changes divestiture experience.

However, at other times, of the two types of experience, it is only the firm's divestiture experience that plays a direct role in the firm's divestiture performance. The magnitude and significance of the coefficient for *Divestiture Experience* in the *Announcement Date CAR* model is essentially unchanged from the baseline case and slightly diminished in the *Gain-to-Assets* case (Model 1 in Table 8 and Table 11, respectively).

One implication of this insight is that the fungibility of resources is an essential part of firm success, and that the intended application of the resource is not necessarily its best, or its only one. To this end, this insight speaks to the heart of the resource-based view of the firm.

There are natural limits to the amount of experience that a firm can obtain and to the managerial attention needed to deploy it. Resource redeployment – with the resource here being experience - is a natural outgrowth of these constraints (e.g. Capron et al., 1998; Helfat and Eisenhardt, 2004; Penrose, 1959; Sakhartov and Folta, 2014). Intriguingly, the result that the transferred acquisition experience can play an outside role – or supplant – that of divestiture experience in achieving divestiture performance may suggest that there may be occasions where firms opt to neglect learning in one activity and are instead content to let its transferred learning from an alternative activity suffice.

5. *Evidenced via statistical significance, the transfer relationships between acquisition and divestiture are frequently strong, suggesting the importance of their concurrent rather than separate consideration.*

The transfer relationships, using statistical significance as a guide, are present in both the direct and moderating cases. As can be seen in Model 7 in each of Table 8, Table 9, Table 10, and Table 11, this is especially the case for the moderating relationship. Furthermore, in cases where a direct transfer relationship was not detected (*Announcement Date CAR*, *Gain-to-Assets*), a moderating transfer relationship was identified. This speaks to the fact that each performance variable is revealing a view of transfer, and this consistency further serves to build a very compelling case for the presence of experience transfer in firms.

However, in addition to significance, should consider the magnitude of these transfer effects. An examination of the coefficients in Models 6 and 7 in each of Table 8, Table 9, Table 10, and Table 11 shows that they are small, especially relative to those of the control variables. Of course, these are average effects across a large sample, so the strong evidence for the presence of these transfer effects alone is powerful in and of itself.

Furthermore, it was expected that the control variables would have an impact on divestiture performance (which underpinned their inclusion in the models). For *Announcement Date CAR*, the controls pertaining to firm characteristics (e.g. *ln(Total Assets)*, *Negative Net*

*Income*, *Herfindahl Index*) are consistently significant with relatively large effects across the models in tables referenced above for each of the performance variables. That the market is likely responding to the financial and structural characteristics of the firm that are easily observed is no surprising. For *Completion*, it is notable that the transaction-characteristic controls (e.g. *Geographic Relatedness*, *Divestiture Program*) are significant and large. Indeed, the fact that when both selling parent and divesting unit are located in the same country increases the likelihood of deal completion speaks to the role of context-similarity in divestiture and corporate development more broadly (e.g. Halebian and Finkelstein, 1999). For *Duration*, the high impact of *Leverage* (a highly leveraged firm likely needs the funds from the sale quickly) and *Unit-Parent Size Ratio* (more time is required to separate from relatively larger units) are expected. For *Gain-to-Assets*, the *Herfindahl Index* control shows that higher gains are associated with a Herfindahl Index approaching one (or less diversification), suggesting that a firm with more focused operations has a deeper understanding of each of its businesses, and is therefore positioned to thus knowledgeably optimize the divestiture sale.

The dual issues of significance and magnitude surface an important implication. Again, these are average effects. Using significance as a guide to identifying key processes of interest, deliberate mechanisms may be put into place by firms to augment (or avoid augmenting) the effects of these transfer processes. For example, to enhance transfer, managers may opt to codify the knowledge gleaned through their experiences through tools like checklists and post-deal debrief sessions (Zollo and Singh, 2004; Zollo and Winter, 2002). To avoid negative transfer, firms could, for example, adopt a silo-designed team structure, wherein acquisitions and divestitures are handled by separate teams and do not engage in best practice sharing. Deliberate learning can be used as a tool to augment or avoid the transfer relationships that have been identified.



Furthermore, another major implication of this section's insight is the important role of concurrent learning in firms. These research results suggest that learning processes in firms – here, for divestiture and acquisition – are intertwined. Learning to acquire can impact not only divestiture performance, but the divestiture learning process. Considering these two strategic activities concurrently is a more accurate representation of real-world firm operations – indeed, these activities do not occur in isolation in practice. In spite of this, with few exceptions (such as Bingham et al., 2015), researchers have not typically considered the commingling of learning processes. These results imply that concurrent learning deserves further, deeper consideration.

### **3.5.1 Limitations & Directions for Future Research**

There are several important limitations to this paper. Notably, only two types of corporate development activities – divestiture and acquisition – are considered in this study. Alliances and joint ventures, for example, are also commonly used mechanisms by firms to expand their boundaries. These activities are not conducted in isolation in firms; rather, they are interwoven components of firms' corporate strategy agendas. Considering the potential for experience transfer across the entire portfolio of firms' strategic activities, and identifying the benefits and drawbacks thereof, could reveal valuable insights around organizational learning processes are intertwined and their ramifications for firm performance.

Additionally, much more remains to be understood about how similarities and differences in experiences' characteristics influence the efficacy of transfer. The transferrable lessons from an unrelated acquisition to a closely related divestiture, or even from a vertical acquisition to a horizontal divestiture, may be different than when each are of the same kind. With increasing globalization and the rise in cross-border transactions, deciphering the degree to which experience may be advantageously transferred across strategic activities when it was attained in different geographic, cultural, and political contexts would be an especially salient research path to pursue.

Moreover, this paper focused on divestiture performance, and investigated the potential for and implications of experience transfer from that perspective. Certainly, other outcomes, such as acquisition performance, could be examined. Intriguingly, the transfer of divestiture experience and its impact on acquisition performance, be it directly or as a moderator in the relationship between acquisition experience and acquisition performance, would not necessarily operate under the same mechanisms or demonstrate the same effects as those found in this paper. Unpacking the varied natures and complexities of the suite of the different transfer relationships in firms could serve to shed new light on how firms may best capitalize on their experiences to advance learning and performance.

### **3.6 CONCLUSION**

In this paper, I investigate the potential for intra-firm experience transfer in the context of scope change, specifically by examining whether and how a firm's acquisition experience may influence its divestiture performance. I demonstrate the presence of two paths for internal experience transfer: one in which the firm's acquisition experience is directly applied to its execution of divestiture, and another in which the transfer of the firm's acquisition experience moderates the relationship between the firm's divestiture experience and its divestiture performance. Notably, I find that these learning transfer processes are neither dependably viable nor consistently beneficial to divestiture performance, presenting tradeoffs to managers. Moreover, I find that the transfer processes are curvilinear, thus fueling these incongruities.

The results of this research enable me to make several contributions to the organizational learning and strategic management literatures. First, I advance our understanding of activity-to-activity internal learning transfer. Most studies have considered context-to-context internal transfer, wherein the firm's experience in performing a certain activity in one context is transferred to its performing the same activity in a different context (e.g. a different geography, industry, etc.). In focusing on activity-to-activity internal transfer, I am able to help offer a more

complete picture of intra-firm learning processes. Second, by examining both the direct and moderating effects of experience transfer, I am able to demonstrate not only that a firm's learning how to acquire directly impacts its implementation of divestiture, but also that a firm's learning how to acquire impacts its learning how to divest. This moderating effect has previously only been considered qualitatively, and my quantitative approach reinforces the view that a firm's learning processes -- here, for divestiture and acquisition -- are intertwined, and should be studied concurrently, rather than in isolation. Third, I shed light on the complexities of intra-firm learning transfer. In identifying the role that curvilinearity plays in both the direct and moderating transfer paths, I reveal that experience transfer can be both an asset and a liability to performance. In treating experience transfer from acquisition to divestiture -- two strategic activities that are both critical, but that present a tension through their competing objectives of scope expansion and scope reduction -- I illustrate opportunities and limits inherent to internal experience transfer.

### 3.7 TABLES

Table 7: Descriptive Statistics and Correlation Matrix

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1 Announcement Date CAR	0.01	0.12	1																		
2 Completion	0.77	0.42	0.00	1																	
3 Duration	51.10	113.95	0.03***	.	1																
4 Gain-to-Assets	0.03	0.11	-0.01	.	0.01	1															
5 Gain Disclosed	0.52	0.50	0.00	.	-0.01	.	1														
6 Segment Count	2.92	1.97	-0.03***	0.02***	0.02***	-0.12**	0.00	1													
7 Restatements	0.35	0.48	0.00	0.03***	-0.05***	0.02	0.02	0.13***	1												
8 Divestiture Experience	6.14	10.92	-0.03***	-0.02***	0.01***	-0.06	-0.18***	0.40***	0.09***	1											
9 Acquisition Experience	8.46	17.53	-0.03***	0.00	0.00	-0.07	-0.17***	0.40***	0.10***	0.67***	1										
10 ln(Total Assets)	7.69	2.72	-0.07***	-0.02***	0.06***	-0.29***	-0.18***	0.51***	-0.07***	0.57***	0.46***	1									
11 Negative Net Income	0.33	0.47	0.05***	-0.01	-0.03***	0.16***	0.04	-0.20***	0.02***	-0.14***	-0.13***	-0.37***	1								
12 Leverage	0.38	0.27	0.03***	-0.04***	0.04***	-0.08*	-0.06	0.07***	-0.17***	0.13***	0.12***	0.20***	0.21***	1							
13 Tobin's q	1.45	45.22	-0.03***	-0.01*	-0.01**	0.24***	0.02	-0.01*	0.01	0.00	0.00	-0.03***	0.01	-0.02***	1						
14 Return on Equity	-0.20	36.75	-0.01	0.00	0.00	0.36***	0.03	0.01	0.00	0.00	0.01*	-0.01***	0.01**	0.00	0.00	1					
15 Herfindahl Index	0.63	0.33	0.02***	-0.02***	-0.01**	0.13**	-0.04	-0.75***	-0.16***	-0.24***	-0.17***	-0.39***	0.16***	-0.01*	0.01*	-0.01	1				
16 Unit-Parent Size Ratio	0.25	0.43	0.20***	-0.08***	0.08***	0.34***	0.03	-0.20***	-0.02***	-0.19***	-0.16***	-0.38***	0.29***	0.32***	-0.05***	0.01	0.15***	1			
17 Unit-Parent Geographic Relatedness	0.81	0.39	0.02***	0.02***	0.03***	-0.04	0.13***	-0.13***	-0.06***	-0.19***	-0.16***	-0.23***	0.06***	0.04***	0.00	0.00	0.10***	0.13***	1		
18 Unit-Parent Industrial Relatedness	0.36	0.48	0.01**	-0.04***	0.04***	0.12**	0.01	-0.20***	-0.09***	-0.15***	-0.12***	-0.13***	0.10***	-0.01***	0.01	-0.01*	0.17***	0.09***	0.02***	1	
19 Divestiture Program	0.53	0.50	-0.03***	0.10***	0.02***	-0.10**	-0.09**	0.34***	0.03***	0.44***	0.28***	0.54***	-0.13***	0.10***	-0.01*	0.01*	-0.28***	-0.23***	-0.15***	-0.11***	1

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

Table 8: OLS Estimates of Announcement Date CAR Divestiture Performance

<b>Dependent Variable: Announcement Date CAR</b>	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Divestiture Experience	0.0002** (0.0001)			0.0002** (0.0001)	0.0002 (0.0001)	0.0002** (0.0001)	0.0001 (0.0002)
Acquisition Experience		0.0001** (0.000)	0.000 (0.0001)	0.000 (0.000)	-0.000 (0.0001)	-0.0001 (0.0001)	-0.0003* (0.0002)
(Acquisition Experience)^2			0.000 (0.000)			0.000 (0.000)	0.000** (0.000)
Divestiture Experience X Acquisition Experience					0.000 (0.000)		0.000* (0.000)
Divestiture Experience X (Acquisition Experience)^2							-0.000** (0.000)
ln(Total Assets)	-0.0041*** (0.0006)	-0.0042*** (0.0006)	-0.0041*** (0.0007)	-0.0044*** (0.0007)	-0.0044*** (0.0007)	-0.0043*** (0.0007)	-0.0042*** (0.0007)
Negative Net Income	0.0063*** (0.0019)	0.0074*** (0.0021)	0.0074*** (0.0021)	0.0071*** (0.0021)	0.0071*** (0.0022)	0.0071*** (0.0022)	0.0071*** (0.0022)
Return on Equity	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.0001 (0.0001)
Herfindahl Index	-0.0037 (0.0024)	-0.0045* (0.0027)	-0.0046* (0.0027)	-0.0044* (0.0027)	-0.0045* (0.0027)	-0.0045* (0.0027)	-0.0047* (0.0027)
Unit-Parent Geographic Relatedness	0.002 (0.0015)	0.0025 (0.0017)	0.0025 (0.0017)	0.0026 (0.0017)	0.0026 (0.0017)	0.0026 (0.0017)	0.0026 (0.0017)
Unit-Parent Industrial Relatedness	0.0012 (0.0016)	0.0015 (0.0018)	0.0015 (0.0018)	0.0017 (0.0018)	0.0017 (0.0018)	0.0017 (0.0018)	0.0018 (0.0018)
Divestiture Program	-0.0013 (0.0018)	0.0006 (0.002)	0.0007 (0.002)	-0.0002 (0.002)	0.0001 (0.0021)	-0.000 (0.002)	0.0005 (0.0022)
Constant	0.017 (0.0215)	0.0125 (0.0236)	0.0121 (0.0235)	0.0137 (0.0238)	0.0134 (0.0238)	0.0133 (0.0237)	0.0133 (0.0236)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	0.019	0.020	0.020	0.020	0.020	0.020	0.020
Number of Observations	27,512	22,627	22,627	22,627	22,627	22,627	22,627

Robust standard errors clustered by firm in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

Table 9: Logit Estimates of Completion Divestiture Performance

<b>Dependent Variable: Completion</b>	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Divestiture Experience	-0.0117*** (0.0043)			-0.0048 (0.0055)	-0.0151** (0.0068)	-0.005 (0.0061)	-0.0167** (0.0085)
Acquisition Experience		-0.007*** (0.0023)	-0.0169*** (0.0057)	-0.0056** (0.0026)	-0.015*** (0.0038)	-0.0155** (0.0061)	-0.0216*** (0.0079)
(Acquisition Experience)^2			0.0001** (0.000)			0.0001** (0.000)	0.0001 (0.0001)
Divestiture Experience X Acquisition Experience					0.0003*** (0.0001)		0.0005* (0.0003)
Divestiture Experience X (Acquisition Experience)^2							-0.000 (0.000)
ln(Total Assets)	-0.0427** (0.0184)	-0.036* (0.0199)	-0.0291 (0.0204)	-0.0314 (0.0207)	-0.0186 (0.0213)	-0.0242 (0.0212)	-0.0162 (0.0217)
Negative Net Income	-0.202*** (0.0663)	-0.192*** (0.0732)	-0.186** (0.0735)	-0.185** (0.0732)	-0.165** (0.0733)	-0.179** (0.0737)	-0.164** (0.0734)
Leverage	0.322** (0.131)	0.334** (0.147)	0.332** (0.148)	0.329** (0.146)	0.283* (0.148)	0.327** (0.148)	0.275* (0.149)
Tobin's q	-0.0035 (0.0035)	-0.0028 (0.0036)	-0.0025 (0.0035)	-0.0027 (0.0036)	-0.0025 (0.0035)	-0.0025 (0.0035)	-0.0024 (0.0035)
Return on Equity	-0.0012 (0.0016)	0.0018 (0.0018)	0.0017 (0.0018)	0.0018 (0.0018)	0.0017 (0.0018)	0.0017 (0.0018)	0.0017 (0.0018)
Herfindahl Index	-0.100 (0.105)	-0.038 (0.116)	-0.0517 (0.116)	-0.0392 (0.117)	-0.0572 (0.117)	-0.0529 (0.117)	-0.0644 (0.117)
Unit-Parent Size Ratio	-0.395*** (0.0712)	-0.375*** (0.0833)	-0.384*** (0.0833)	-0.370*** (0.0835)	-0.372*** (0.084)	-0.379*** (0.0836)	-0.375*** (0.0841)
Unit-Parent Geographic Relatedness	0.402*** (0.0758)	0.427*** (0.0823)	0.427*** (0.0824)	0.423*** (0.0824)	0.415*** (0.0827)	0.423*** (0.0825)	0.416*** (0.0828)
Unit-Parent Industrial Relatedness	-0.172*** (0.0641)	-0.204*** (0.0727)	-0.200*** (0.0725)	-0.206*** (0.0726)	-0.199*** (0.0721)	-0.204*** (0.0725)	-0.198*** (0.072)
Divestiture Program	0.818*** (0.0734)	0.785*** (0.0793)	0.804*** (0.0799)	0.804*** (0.0811)	0.870*** (0.0847)	0.824*** (0.0824)	0.881*** (0.0867)
Constant	1.047 (1.141)	1.459*** (0.356)	1.429*** (0.358)	1.441*** (0.354)	1.407*** (0.354)	1.410*** (0.357)	1.410*** (0.355)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Log Pseudolikelihood	-4948.72	-3960.38	-3958.00	-3959.83	-3954.61	-3957.40	-3954.07
Chi-Square	753.17***	603.93***	637.96***	607.94***	657.08***	641.51***	857.92***
Number of Observations	15,539	12,732	12,732	12,732	12,732	12,732	12,732

Robust standard errors clustered by firm in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

Table 10: Negative Binomial Estimates of Duration Divestiture Performance

Dependent Variable: Duration	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Divestiture Experience	-0.0059*** (0.002)			-0.0076*** (0.0026)	-0.0076*** (0.0028)	-0.0073*** (0.0022)	-0.0098*** (0.0034)
Acquisition Experience		-0.0005 (0.001)	-0.0074** (0.003)	0.0014 (0.0014)	0.0015 (0.0028)	-0.0053* (0.003)	-0.0152*** (0.004)
(Acquisition Experience)^2			0.0001*** (0.000)			0.0001*** (0.000)	0.0002*** (0.000)
Divestiture Experience X Acquisition Experience					-0.000 (0.0001)		0.0004*** (0.0001)
Divestiture Experience X (Acquisition Experience)^2							-0.000*** (0.000)
ln(Total Assets)	0.151*** (0.013)	0.157*** (0.0125)	0.163*** (0.013)	0.165*** (0.013)	0.165*** (0.0135)	0.171*** (0.0134)	0.173*** (0.0137)
Negative Net Income	-0.0229 (0.0442)	-0.0108 (0.0425)	-0.0033 (0.0427)	-0.0033 (0.0423)	-0.0034 (0.0424)	0.0033 (0.0424)	0.0024 (0.0424)
Leverage	-0.573*** (0.109)	-0.616*** (0.107)	-0.620*** (0.106)	-0.601*** (0.107)	-0.601*** (0.107)	-0.606*** (0.106)	-0.616*** (0.107)
Tobin's q	0.0296 (0.0252)	0.0273 (0.0273)	0.0301 (0.0278)	0.030 (0.0279)	0.030 (0.0279)	0.0326 (0.0283)	0.0326 (0.0284)
Return on Equity	0.0017 (0.0075)	-0.0026 (0.0074)	-0.0027 (0.0073)	-0.0027 (0.0073)	-0.0027 (0.0073)	-0.0029 (0.0072)	-0.0029 (0.0072)
Herfindahl Index	-0.150** (0.0609)	-0.165** (0.0658)	-0.176*** (0.0656)	-0.171*** (0.0653)	-0.171*** (0.0663)	-0.180*** (0.0656)	-0.192*** (0.0659)
Unit-Parent Size Ratio	0.818*** (0.0485)	0.872*** (0.0516)	0.871*** (0.0519)	0.877*** (0.0519)	0.877*** (0.0518)	0.877*** (0.0521)	0.875*** (0.0521)
Unit-Parent Geographic Relatedness	0.171*** (0.0586)	0.210*** (0.0628)	0.214*** (0.0622)	0.203*** (0.0625)	0.203*** (0.0625)	0.206*** (0.0621)	0.220*** (0.0611)
Unit-Parent Industrial Relatedness	0.0155 (0.0392)	0.0558 (0.0379)	0.0574 (0.0379)	0.0511 (0.0382)	0.0511 (0.0382)	0.0526 (0.0381)	0.0548 (0.038)
Divestiture Program	-0.116*** (0.0403)	-0.123*** (0.0424)	-0.114*** (0.0428)	-0.103** (0.0428)	-0.103** (0.0429)	-0.0949** (0.0428)	-0.084* (0.044)
Constant	3.008*** (0.324)	3.033*** (0.310)	2.996*** (0.315)	2.974*** (0.318)	2.974*** (0.318)	2.941*** (0.322)	2.960*** (0.329)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ln(alpha)	1.489***	1.493***	1.492***	1.492***	1.492***	1.491***	1.490***
Pseudo R-Squared	0.0063	0.0065	0.0065	0.0065	0.0065	0.0066	0.0067
Number of Observations	13,915	11,515	11,515	11,515	11,515	11,515	11,515

Robust standard errors clustered by firm in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

Table 11: OLS Estimates of Gain-to-Assets Divestiture Performance

Dependent Variable: Gain-to-Assets	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Divestiture Experience	0.0019** (0.0008)			0.0016** (0.0008)	0.0013* (0.0008)	0.0014* (0.0007)	0.0001 (0.0008)
Acquisition Experience		0.0011 (0.0007)	-0.0012 (0.0014)	0.0003 (0.0005)	-0.0008 (0.0012)	-0.0009 (0.0014)	-0.0066** (0.0032)
(Acquisition Experience)^2			0.000* (0.000)			0.000 (0.000)	0.0002* (0.0001)
Divestiture Experience X Acquisition Experience					0.000 (0.000)		0.0004* (0.0002)
Divestiture Experience X (Acquisition Experience)^2							-0.000** (0.000)
ln(Total Assets)	-0.0132* (0.0075)	-0.0103 (0.0081)	-0.0089 (0.0079)	-0.0115 (0.0084)	-0.0106 (0.0085)	-0.0106 (0.0085)	-0.0097 (0.0083)
Negative Net Income	-0.0058 (0.0179)	-0.0008 (0.0197)	0.0003 (0.0198)	-0.0054 (0.020)	-0.004 (0.0204)	-0.0041 (0.0203)	-0.0037 (0.0205)
Leverage	-0.0572 (0.0392)	-0.0434 (0.041)	-0.0485 (0.0416)	-0.0512 (0.0411)	-0.0531 (0.0415)	-0.0528 (0.0415)	-0.060 (0.0431)
Tobin's q	0.0125 (0.0109)	0.0113 (0.0108)	0.0117 (0.0108)	0.0111 (0.0107)	0.0113 (0.0107)	0.0114 (0.0108)	0.0113 (0.0108)
Return on Equity	0.0009*** (0.0001)	0.001*** (0.0002)	0.001*** (0.0002)	0.001*** (0.0002)	0.001*** (0.0002)	0.001*** (0.0002)	0.001*** (0.0002)
Herfindahl Index	0.0297* (0.0166)	0.0414** (0.0203)	0.0395** (0.020)	0.0414** (0.0201)	0.0403** (0.0201)	0.0403** (0.0201)	0.0402** (0.0199)
Unit-Parent Size Ratio	0.133*** (0.0391)	0.159*** (0.0453)	0.159*** (0.0451)	0.160*** (0.0453)	0.160*** (0.0452)	0.160*** (0.0452)	0.160*** (0.045)
Unit-Parent Geographic Relatedness	-0.0096 (0.0243)	-0.0228 (0.0263)	-0.0265 (0.0269)	-0.0233 (0.0262)	-0.0253 (0.0265)	-0.0253 (0.0266)	-0.0257 (0.0265)
Unit-Parent Industrial Relatedness	0.0377** (0.0147)	0.038** (0.0162)	0.0376** (0.0162)	0.0381** (0.0162)	0.0379** (0.0162)	0.0378** (0.0162)	0.0385** (0.0164)
Divestiture Program	0.0108 (0.0105)	0.0116 (0.0122)	0.0124 (0.0121)	0.007 (0.0118)	0.0081 (0.0117)	0.0082 (0.0117)	0.0105 (0.0118)
Constant	0.081 (0.0834)	-0.0014 (0.0789)	-0.0006 (0.0786)	0.0126 (0.081)	0.0111 (0.0812)	0.0109 (0.0811)	0.0135 (0.0801)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	No	No	No	No	No	No	No
R-Squared	0.374	0.394	0.397	0.400	0.401	0.401	0.408
Number of Observations	345	305	305	305	305	305	305

Robust standard errors clustered by firm in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10



Table 12: Heckman Selection Model for Gain-to-Assets Divestiture Performance

Dependent Variable:	(A-1) Gain Disclosed	(1) Gain-to- Assets	(2) Gain-to- Assets	(3) Gain-to- Assets	(4) Gain-to- Assets	(5) Gain-to- Assets	(6) Gain-to- Assets	(7) Gain-to- Assets
Segment Count	0.142*** (0.051)							
Restatements	-0.528* (0.283)							
Divestiture Experience	-0.0216*** (0.0066)	0.0027** (0.0012)			0.0023** (0.0012)	0.0019* (0.0011)	0.002* (0.0011)	0.0007 (0.0009)
Acquisition Experience			0.001 (0.0007)	-0.0017 (0.0014)	0.0002 (0.0005)	-0.0014 (0.0012)	-0.0016 (0.0014)	-0.007** (0.0033)
(Acquisition Experience)^2				0.000* (0.000)			0.000 (0.000)	0.0002* (0.0001)
Divestiture Experience X Acquisition Experience						0.000 (0.000)		0.0005** (0.0002)
Divestiture Experience X (Acquisition Experience)^2								-0.000** (0.000)
ln(Total Assets)	-0.0957** (0.0416)	-0.0069 (0.0052)	-0.0048 (0.0061)	-0.0019 (0.0065)	-0.0037 (0.0061)	-0.0018 (0.0065)	-0.0018 (0.0065)	-0.0003 (0.0066)
Negative Net Income	-0.255* (0.155)	-0.0035 (0.0247)	-0.0076 (0.0286)	-0.0018 (0.0295)	-0.004 (0.0287)	-0.0002 (0.0295)	-0.0004 (0.0294)	0.0033 (0.0298)
Leverage	0.226 (0.339)	-0.0795* (0.0458)	-0.068 (0.048)	-0.0756 (0.0496)	-0.0825 (0.0515)	-0.0865* (0.0524)	-0.086 (0.0522)	-0.0952* (0.0546)
Tobin's q	0.0115 (0.0832)	0.0103 (0.0121)	0.0088 (0.0127)	0.0093 (0.0125)	0.0086 (0.0123)	0.0089 (0.0122)	0.009 (0.0123)	0.0089 (0.0122)
Return on Equity	-0.043 (0.0698)	-0.0189 (0.027)	-0.0227 (0.0298)	-0.0222 (0.0297)	-0.0216 (0.0292)	-0.0213 (0.0292)	-0.0213 (0.0293)	-0.0203 (0.0291)
Herfindahl Index	-0.0636 (0.227)	0.0555* (0.0298)	0.0493 (0.0304)	0.0534* (0.0315)	0.0666* (0.0359)	0.0673* (0.036)	0.0673* (0.036)	0.0707* (0.0368)
Unit-Parent Size Ratio	-0.281 (0.207)	0.157*** (0.0464)	0.184*** (0.0529)	0.187*** (0.0534)	0.191*** (0.055)	0.192*** (0.0551)	0.192*** (0.055)	0.194*** (0.055)
Unit-Parent Geographic Relatedness	0.239 (0.175)	-0.0172 (0.0203)	-0.0207 (0.0197)	-0.0283 (0.0208)	-0.0287 (0.0207)	-0.0331 (0.0215)	-0.033 (0.0215)	-0.0357 (0.0219)
Unit-Parent Industrial Relatedness	-0.128 (0.131)	0.0444** (0.0185)	0.0399** (0.0193)	0.0407** (0.0195)	0.0445** (0.0206)	0.0445** (0.0206)	0.0445** (0.0206)	0.0461** (0.0209)
Divestiture Program	-0.155 (0.142)	0.0153 (0.0113)	0.0112 (0.0131)	0.0148 (0.0134)	0.0113 (0.0128)	0.0138 (0.0128)	0.0138 (0.0128)	0.0178 (0.0132)
Lambda		-0.0793 (0.0645)	-0.0098 (0.0542)	-0.035 (0.0621)	-0.0738 (0.0756)	-0.0837 (0.0778)	-0.0834 (0.0778)	-0.100 (0.0819)
Constant	0.948 (0.646)	0.0704 (0.0783)	-0.022 (0.0724)	-0.0232 (0.0722)	-0.008 (0.0716)	-0.0105 (0.072)	-0.0106 (0.072)	-0.0067 (0.0708)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	No	No	No	No	No	No	No	No
R-Squared		0.310	0.333	0.338	0.342	0.344	0.344	0.353
Number of Observations	593	324	286	286	286	286	286	286

Robust standard errors clustered by firm in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

Table 13: Summary of Results

	Hypothesized Results	Announcement Date CAR	Completion	Gain-to-Assets
Hypothesis 1 (Model 6)	$\beta_3 \neq 0$	Not Sig.	✓	Not Sig.
	$\beta_2 < 0$	Not Sig.	✓	Not Sig.
	$\beta_3 > 0$	Not Sig.	✓	Not Sig.
Hypothesis 2 (Model 7)	$\beta_5 \neq 0$	✓	Not Sig.	✓
	$\beta_4 > 0$	✓	✓	✓
	$\beta_5 < 0$	✓	Not Sig.	✓

	Hypothesized Results	Duration
Hypothesis 1 (Model 6)	$\beta_3 \neq 0$	✓
	$\beta_2 > 0$	×
	$\beta_3 < 0$	×
Hypothesis 2 (Model 7)	$\beta_5 \neq 0$	✓
	$\beta_4 < 0$	×
	$\beta_5 > 0$	×

✓ =  $\beta$  is significant and has sign as hypothesized  
 × =  $\beta$  is significant but has sign opposite as hypothesized  
 Not Sig. =  $\beta$  is not significant at the ten percent level

### 3.8 FIGURES

Figure 3: Model Schematic with Hypotheses for Essay 2

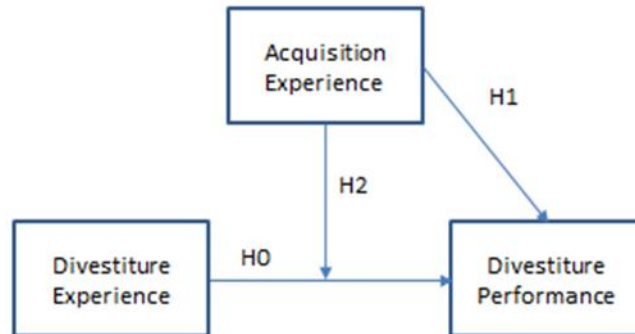


Figure 4: Illustrative Figures for Hypothesis 1 Evaluation

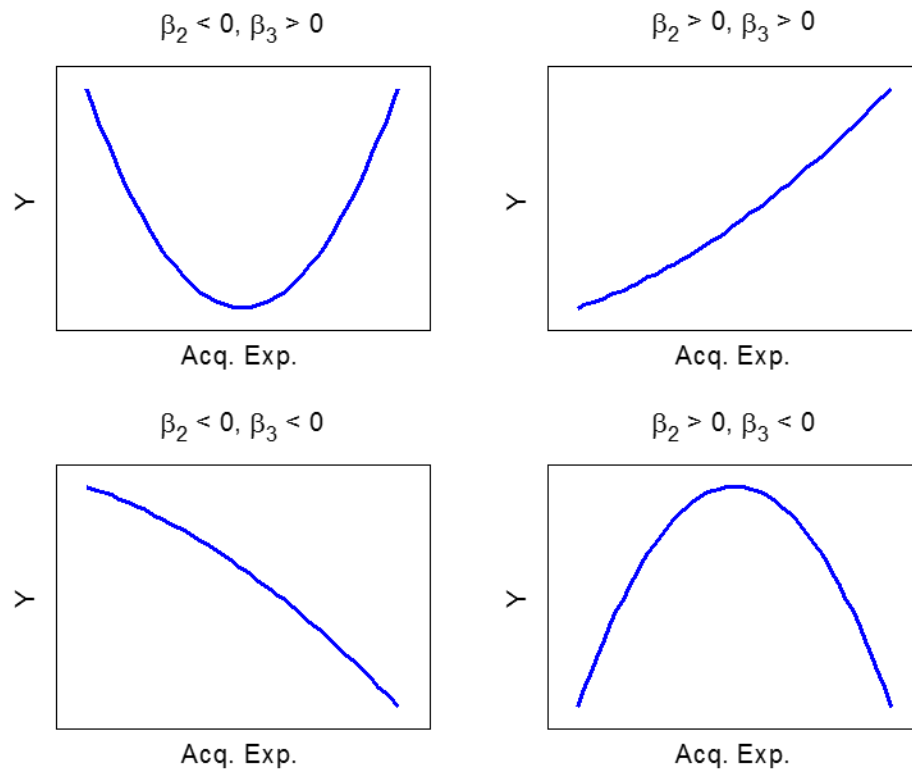


Figure 5: Illustrative Figures for Hypothesis 2 Evaluation – Partial Derivative of Performance with Respect to Divestiture Experience

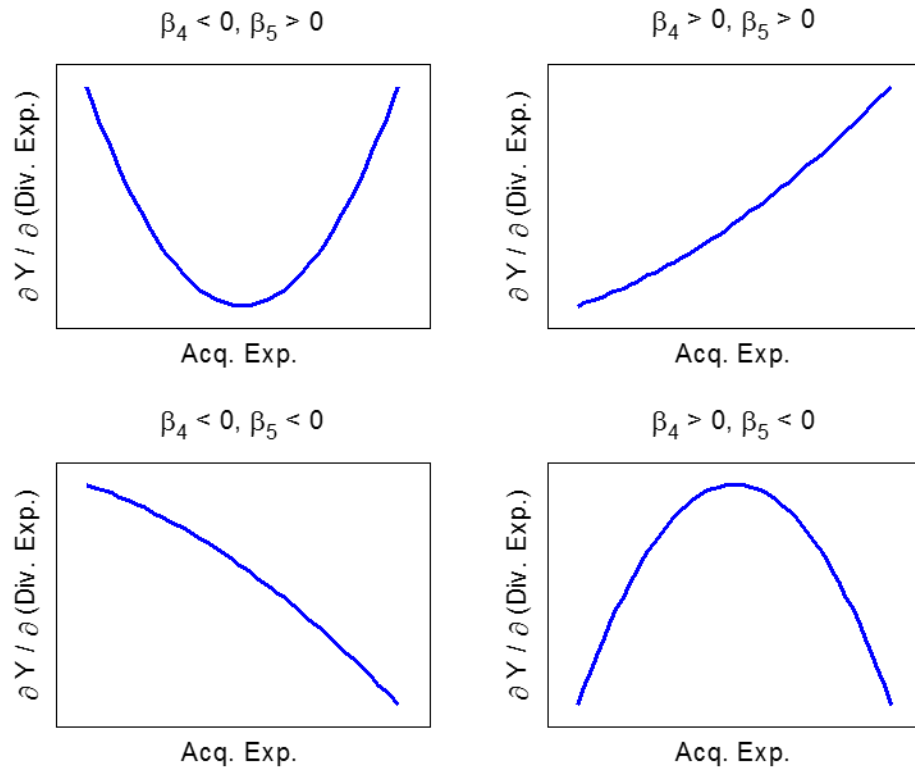
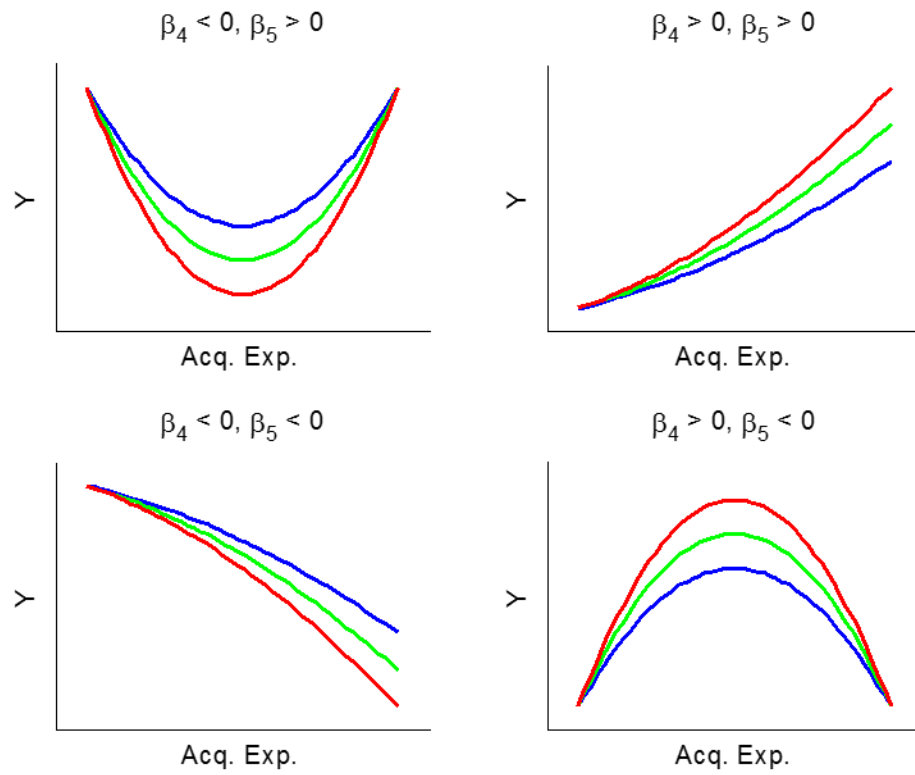


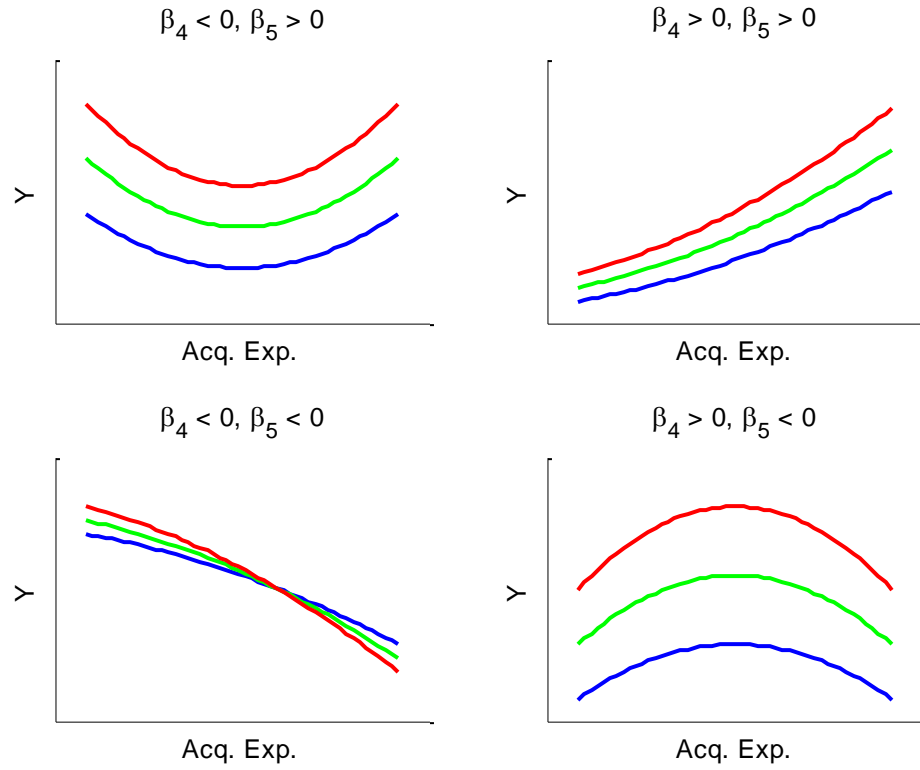
Figure 6: Illustrative Figures for Hypothesis 2 Evaluation, without Vertical Curve Shift ( $\beta_1=0$ )



$$\beta_0=0, \beta_1=0, \beta_2=0, \beta_3=0$$

Increasing Divestiture Experience: **Blue**  $\rightarrow$  **Green**  $\rightarrow$  **Red**

Figure 7: Illustrative Figures for Hypothesis 2 Evaluation, with Vertical Curve Shift ( $\beta_1 > 0$ )



$$\beta_0=0, \beta_1>0, \beta_2=0, \beta_3=0$$

Increasing Divestiture Experience: Blue  $\rightarrow$  Green  $\rightarrow$  Red

Figure 8: Divestiture Performance vs. Acquisition Experience for Different Levels of Divestiture Experience. Includes only significant terms.

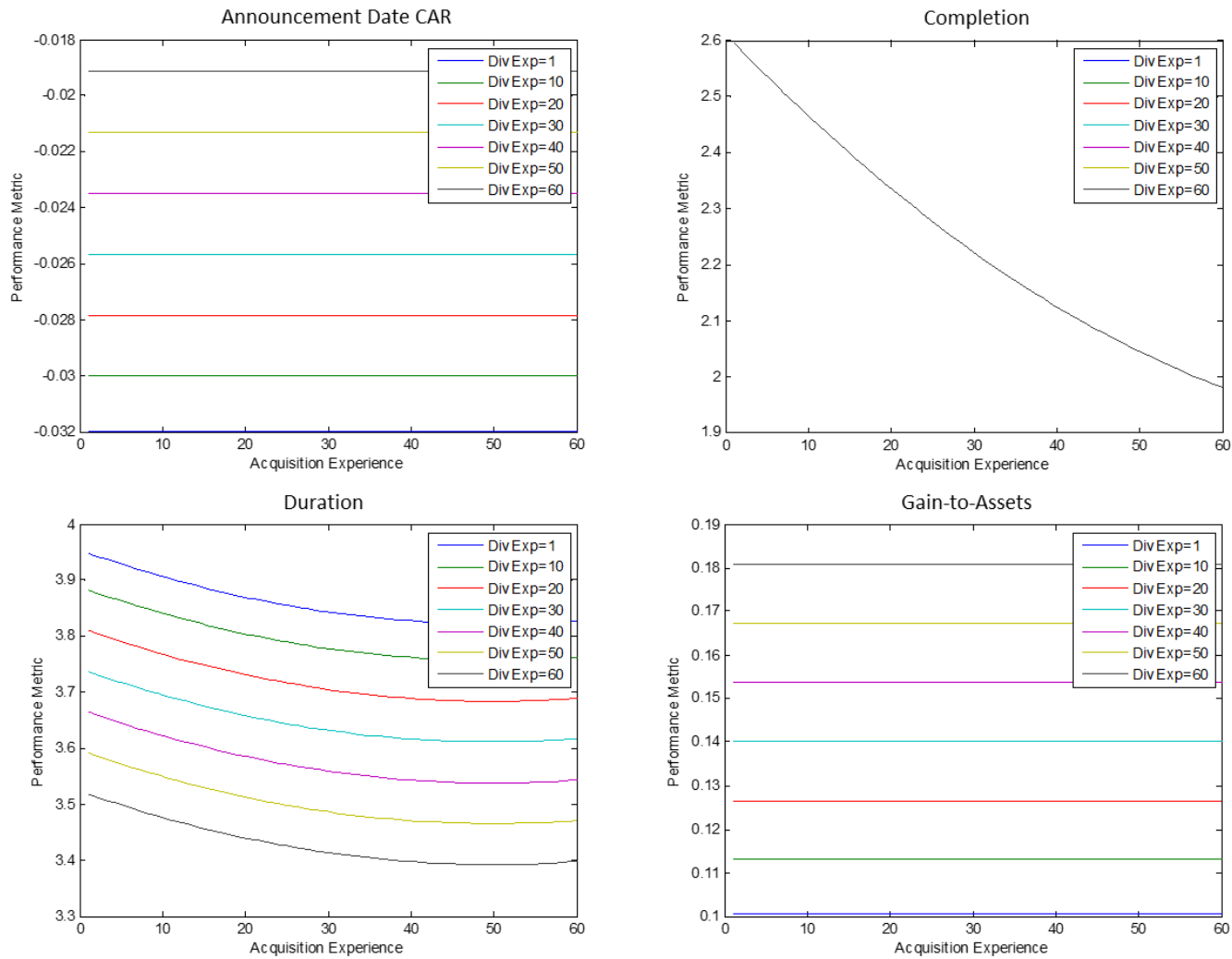


Figure 9: Contour Plot for Hypothesis 1 Discussion. Includes only significant terms.

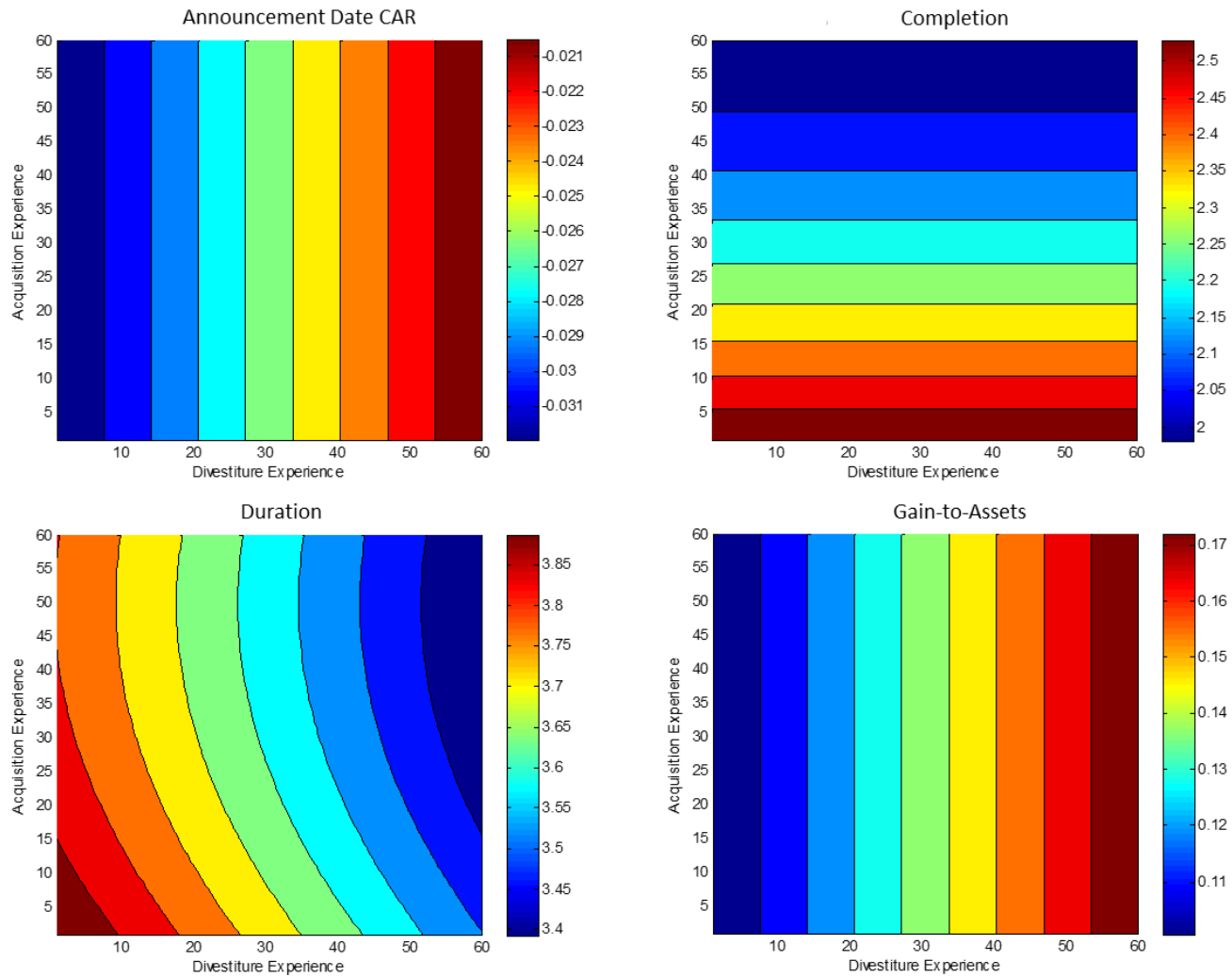




Figure 10: Partial Derivative of Divestiture Performance with Respect to Divestiture Experience for Hypothesis 2 Discussion. Includes only significant terms.

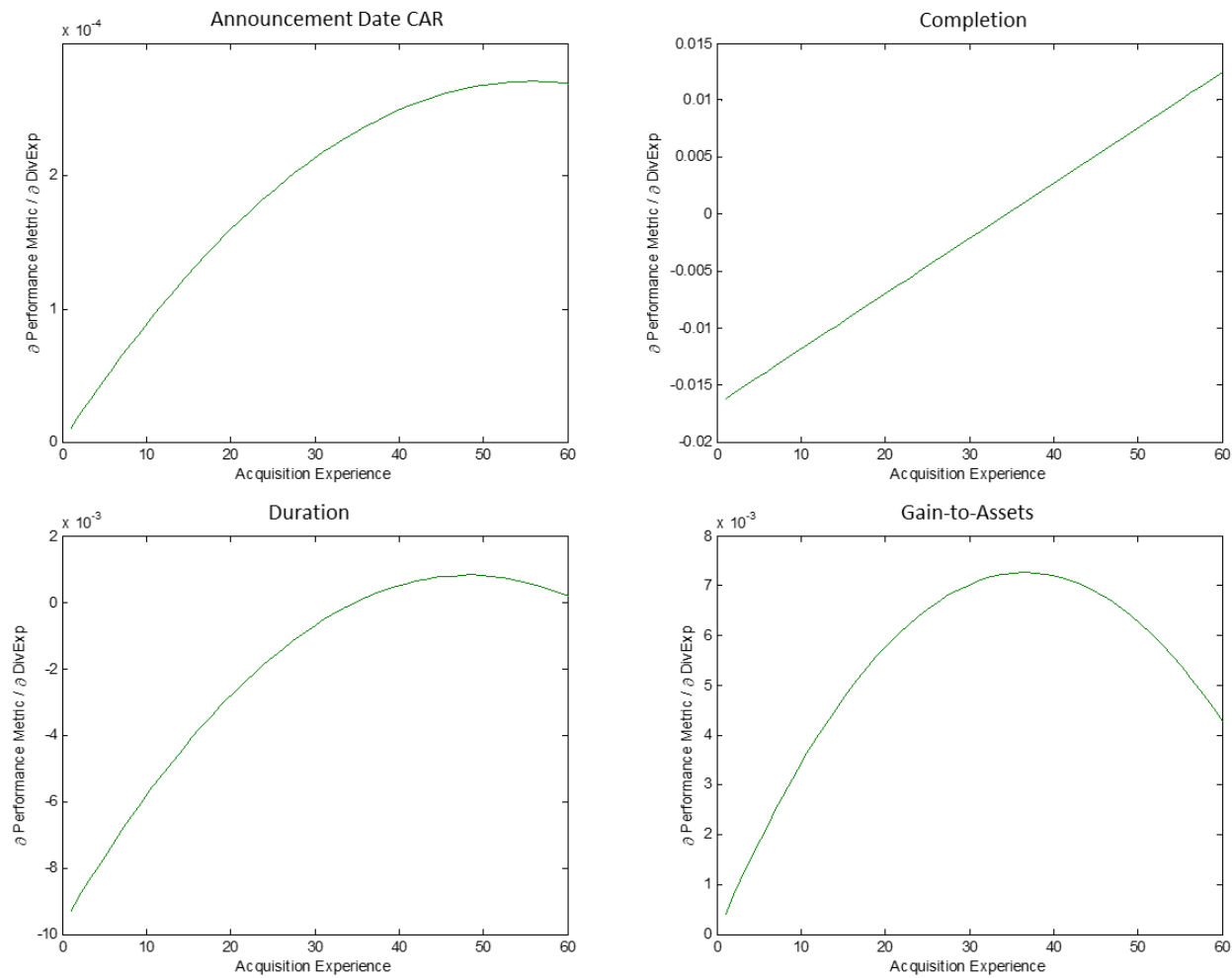


Figure 11: Contour Plot for Hypothesis 2 Discussion. Includes only significant terms.

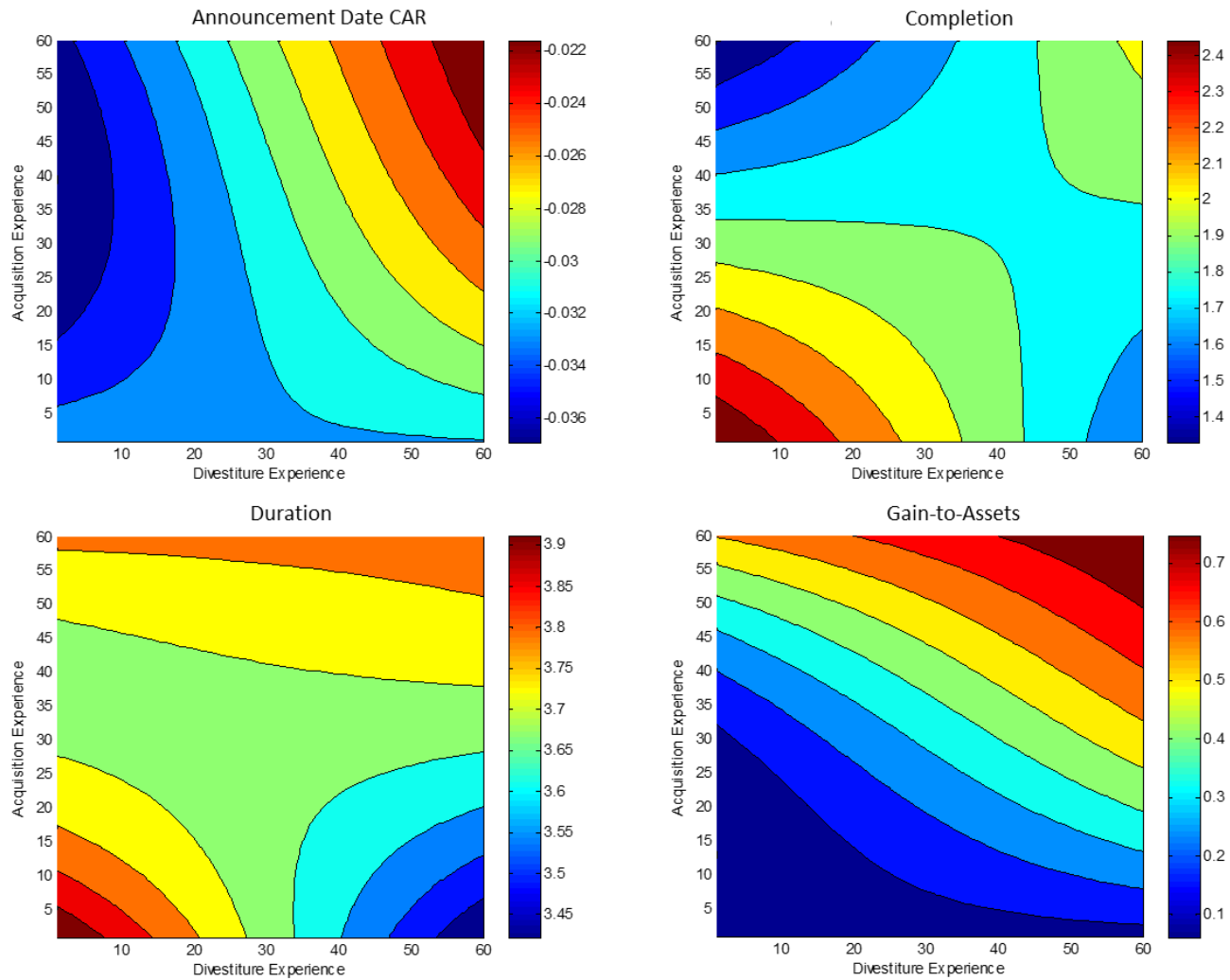
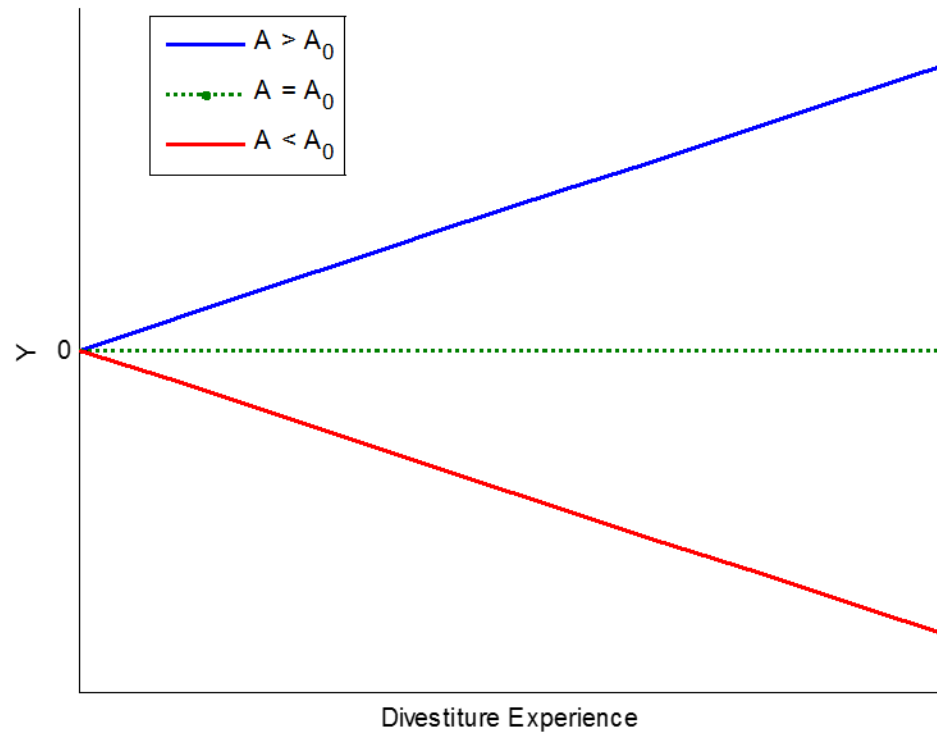


Figure 12: Illustrative Figure for Evaluating the Moderating Role of Acquisition Experience in the Relationship between Divestiture Experience and Completion Performance Y



Increasing Acquisition Experience: Red  $\rightarrow$  Green  $\rightarrow$  Blue  
 $A_0 \approx 37$  acquisitions

### 3.9 APPENDIX

Table 14: Examples of Regression Results Using Full Sample versus CEM Sample

Dependent Variable:	(1) CAR (OLS)		(3) Completion (Logit)		(5) Duration (Negative Binomial)		(7) Gain-to-Assets (OLS)	
	Full Sample	CEM Sample	Full Sample	CEM Sample	Full Sample	CEM Sample	Full Sample	CEM Sample
Divestiture Experience	0.0002** (0.0001)	0.0002* (0.0001)	-0.0117*** (0.0043)	-0.0179*** (0.0055)	-0.0059*** (0.002)	-0.006* (0.0031)	0.0019** (0.0008)	0.0015 (0.0014)
ln(Total Assets)	-0.0041*** (0.0006)	-0.0043*** (0.0009)	-0.0427** (0.0184)	-0.0505 (0.0336)	0.151*** (0.013)	0.179*** (0.0209)	-0.0132* (0.0075)	-0.012 (0.0091)
Negative Net Income	0.0063*** (0.0019)	0.0034 (0.0031)	-0.202*** (0.0663)	-0.267** (0.129)	-0.0229 (0.0442)	0.0291 (0.0731)	-0.0058 (0.0179)	-0.0323 (0.0448)
Leverage			0.322** (0.131)	-0.0654 (0.259)	-0.573*** (0.109)	-0.700*** (0.163)	-0.0572 (0.0392)	0.052 (0.0836)
Tobin's q			-0.0035 (0.0035)	-0.0277 (0.0178)	0.0296 (0.0252)	0.0365 (0.0315)	0.0125 (0.0109)	0.0681** (0.0266)
Return on Equity	-0.0001 (0.0001)	-0.0001 (0.0002)	-0.0012 (0.0016)	-0.0009 (0.0044)	0.0017 (0.0075)	0.0063 (0.0159)	0.0009*** (0.0001)	-0.0436 (0.0329)
Herfindahl Index	-0.0037 (0.0024)	-0.0047 (0.0032)	-0.100 (0.105)	-0.184 (0.179)	-0.150** (0.0609)	0.0343 (0.0892)	0.0297* (0.0166)	0.0465 (0.0484)
Unit-Parent Size Ratio			-0.395*** (0.0712)	-0.227 (0.145)	0.818*** (0.0485)	1.012*** (0.0883)	0.133*** (0.0391)	0.330*** (0.124)
Unit-Parent Geographic Relatedness	0.002 (0.0015)	0.0019 (0.0022)	0.402*** (0.0758)	0.488*** (0.137)	0.171*** (0.0586)	0.195** (0.0898)	-0.0096 (0.0243)	-0.0228 (0.0272)
Unit-Parent Industrial Relatedness	0.0012 (0.0016)	0.0005 (0.002)	-0.172*** (0.0641)	-0.229** (0.115)	0.0155 (0.0392)	-0.150*** (0.0579)	0.0377** (0.0147)	0.0406 (0.0271)
Divestiture Program	-0.0013 (0.0018)	0.0006 (0.0023)	0.818*** (0.0734)	0.813*** (0.123)	-0.116*** (0.0403)	-0.106* (0.0608)	0.0108 (0.0105)	-0.0146 (0.028)
Constant	0.0179 (0.0216)	-0.0097 (0.0084)	2.209* (1.149)	2.918*** (0.644)	2.432*** (0.324)	-18.970 (27.400)	0.081 (0.0834)	-0.124 (0.102)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Number of Observations	27,512	9,274	15,539	5,044	13,915	4,546	345	133

Robust standard errors clustered by firm in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

Figure 13: Divestiture Performance vs. Acquisition Experience for Different Levels of Divestiture Experience. Includes all terms (significant and insignificant).

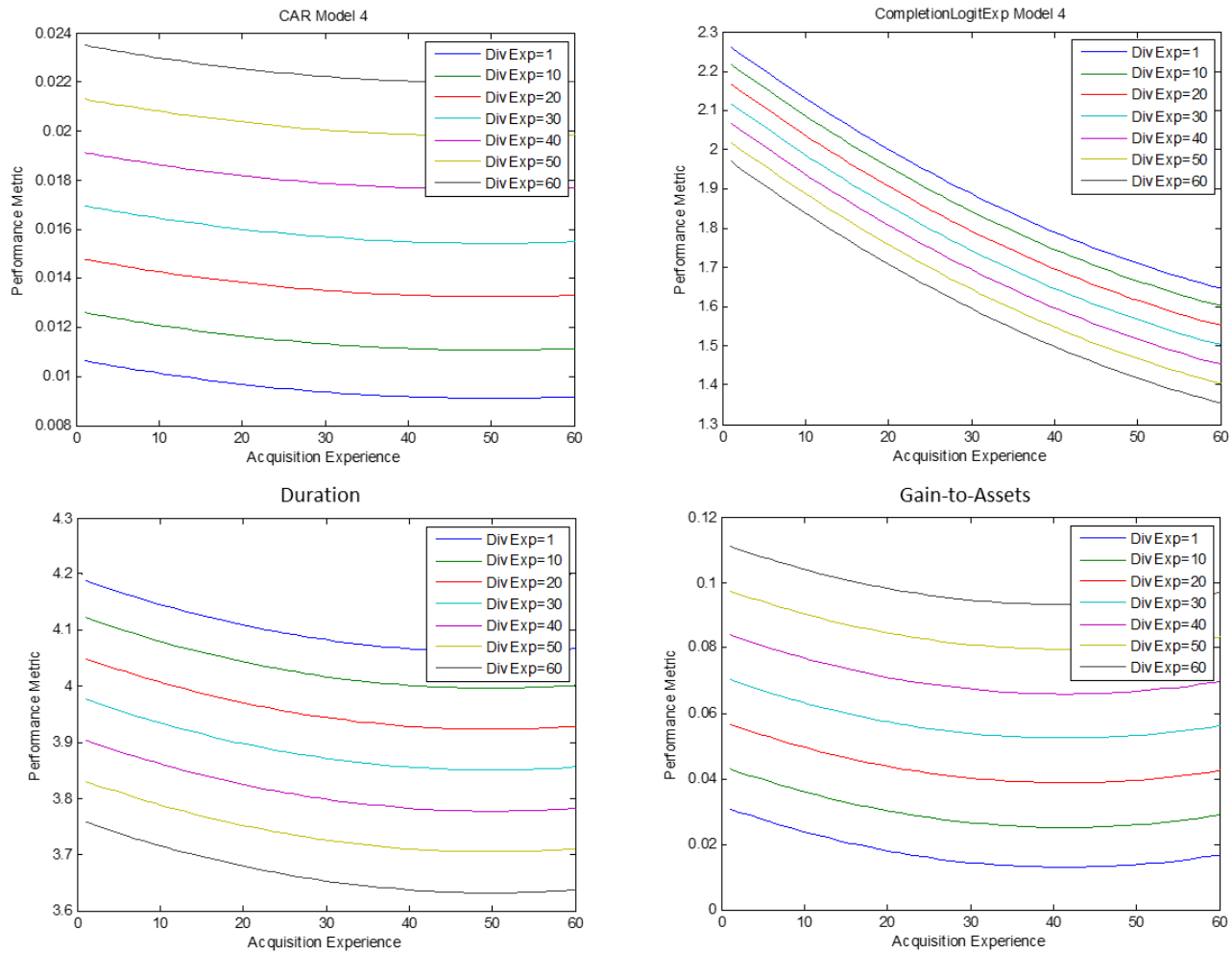


Figure 14: Divestiture Performance vs. Acquisition Experience for Different Levels of Divestiture Experience. Includes all terms (significant and insignificant). Uses Heckman selection model with Gain-to-Assets.

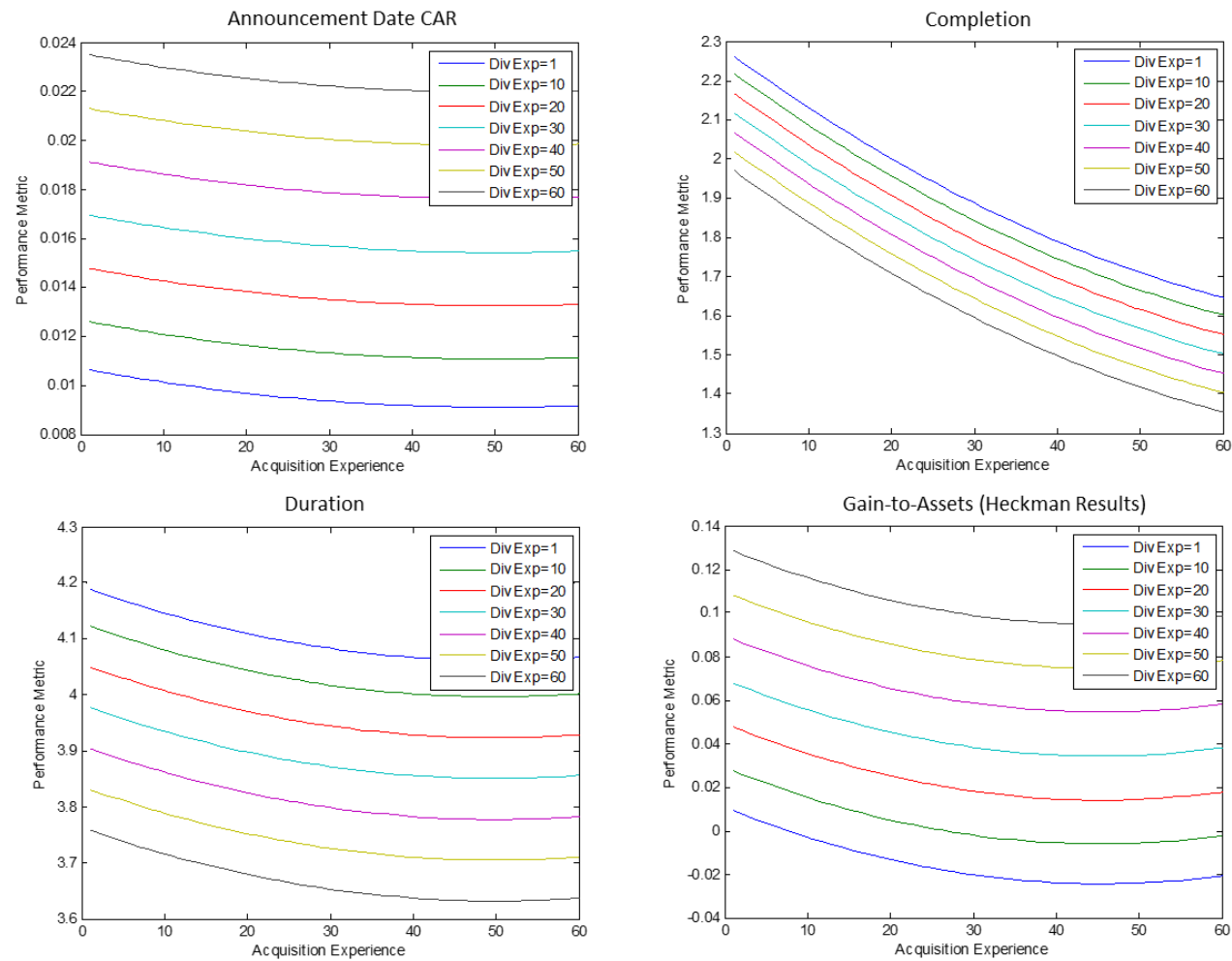


Figure 15: Divestiture Performance vs. Acquisition Experience for Different Levels of Divestiture Experience. Includes only significant terms. Uses Heckman selection model with Gain-to-Assets.

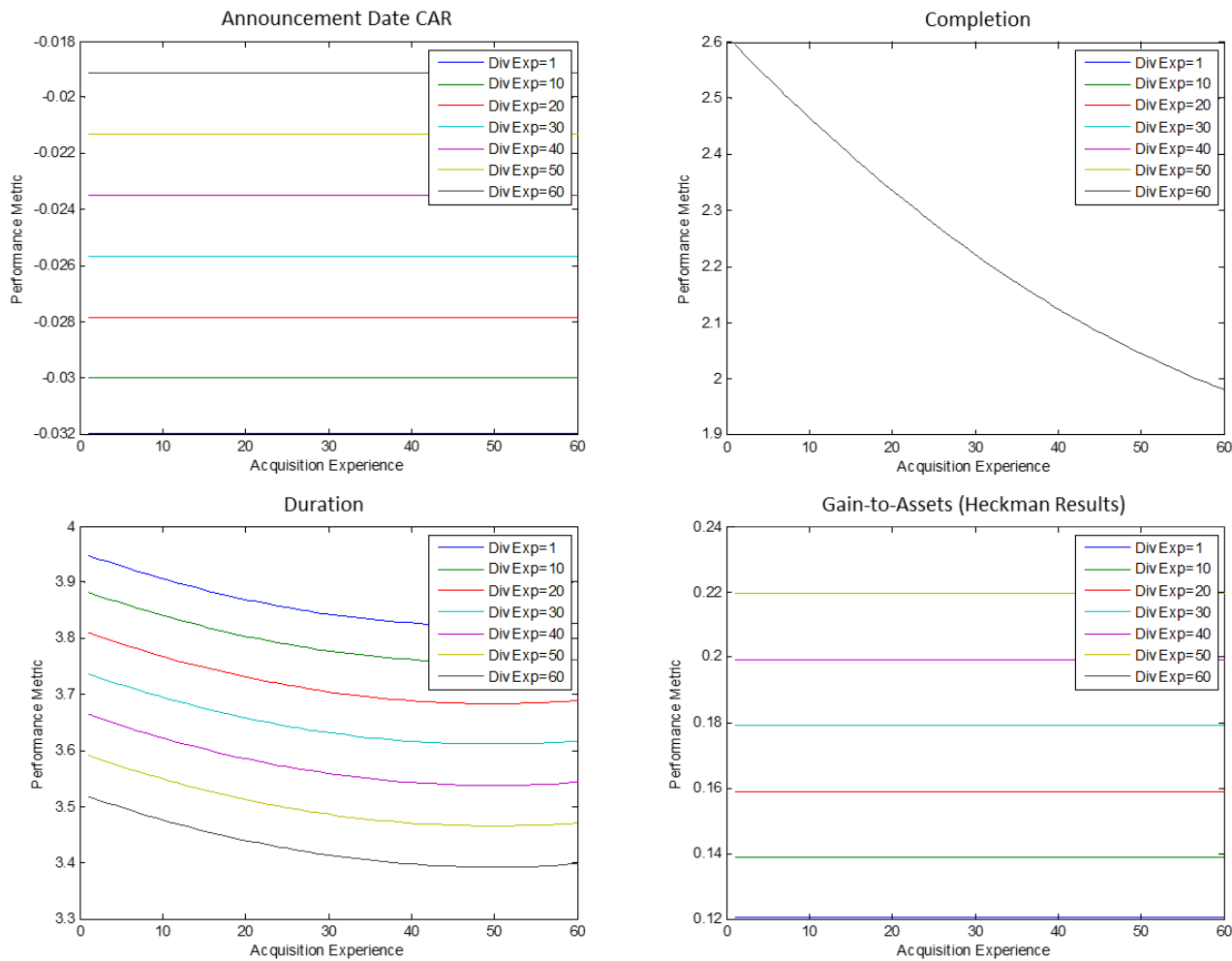


Figure 16: Contour Plot for Hypothesis 1 Discussion. Includes all terms (significant and insignificant).

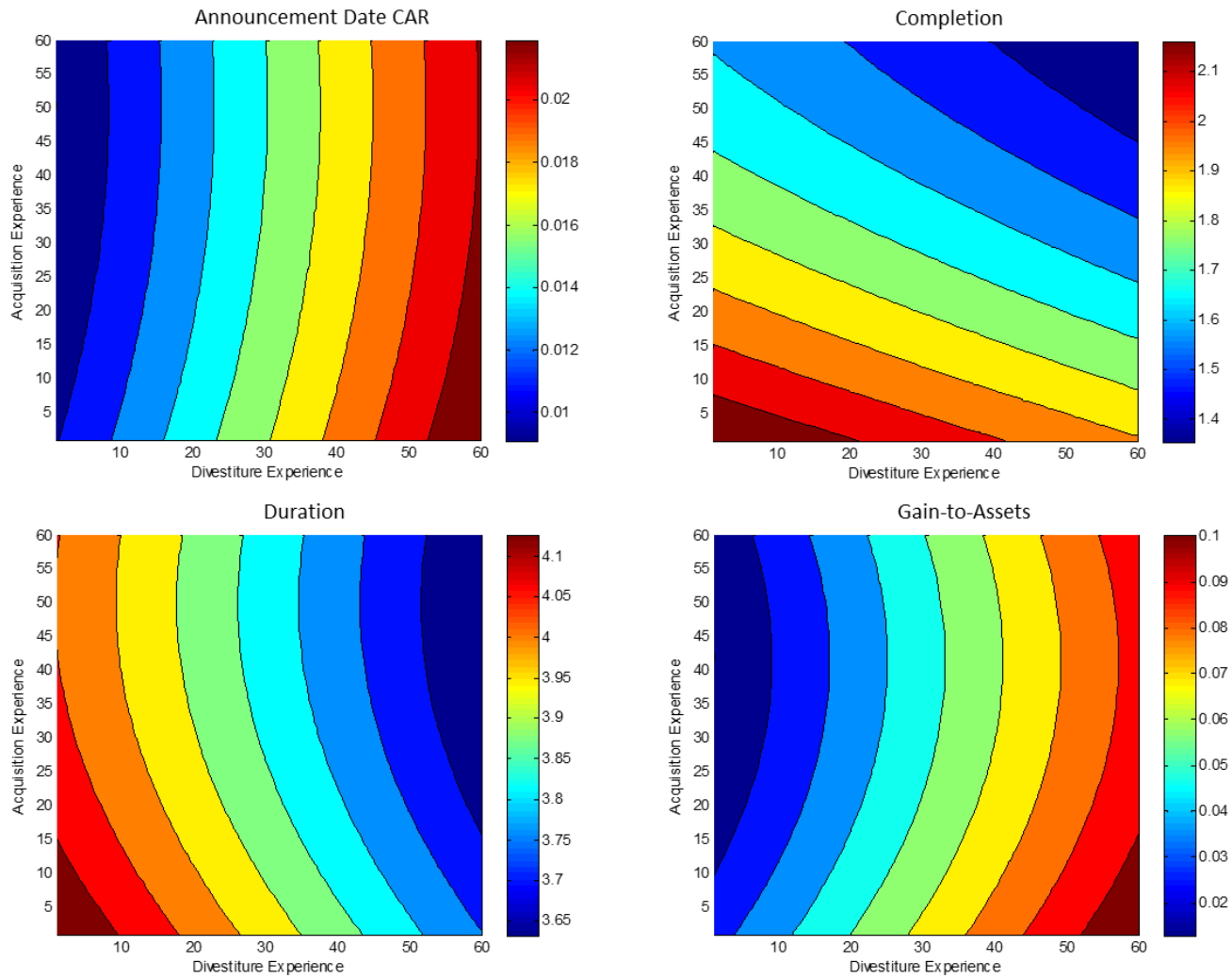




Figure 17: Contour Plot for Hypothesis 1 Discussion. Includes all terms (significant and insignificant). Uses Heckman selection model with Gain-to-Assets.

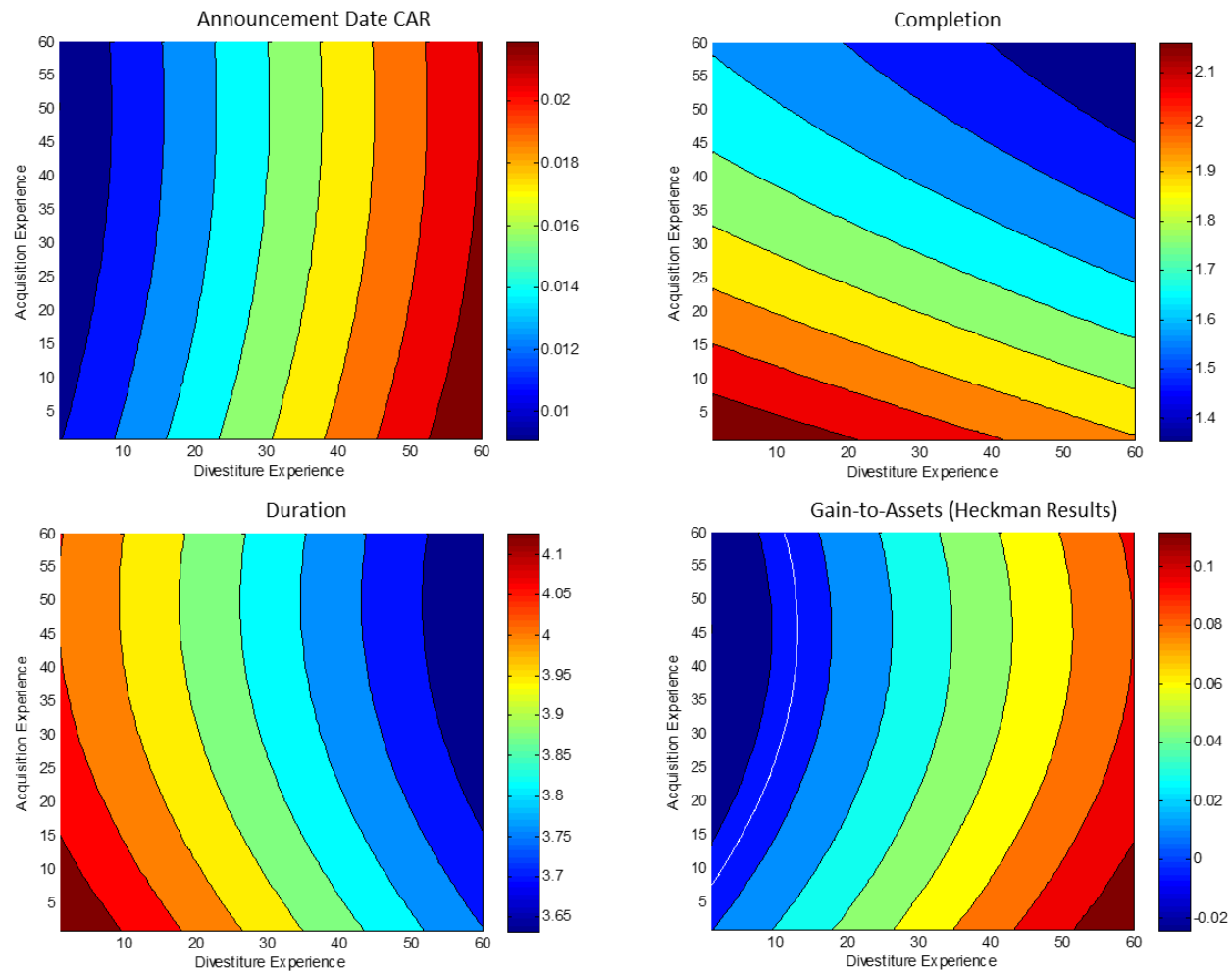


Figure 18: Contour Plot for Hypothesis 1 Discussion. Includes only significant terms. Uses Heckman selection model with Gain-to-Assets.

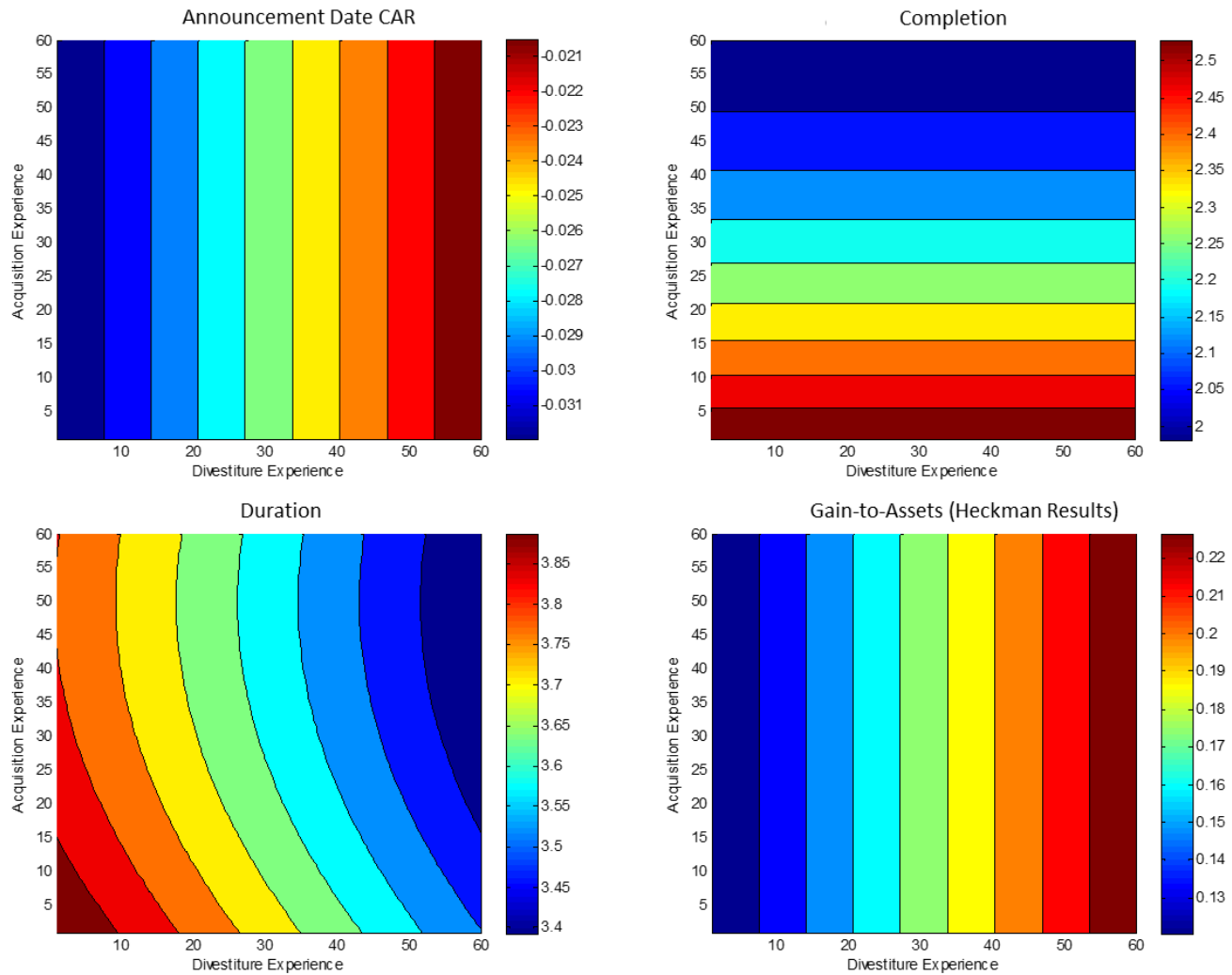


Figure 19: Partial Derivative of Divestiture Performance with Respect to Divestiture Experience for Hypothesis 2 Discussion. Includes all terms (significant and insignificant).

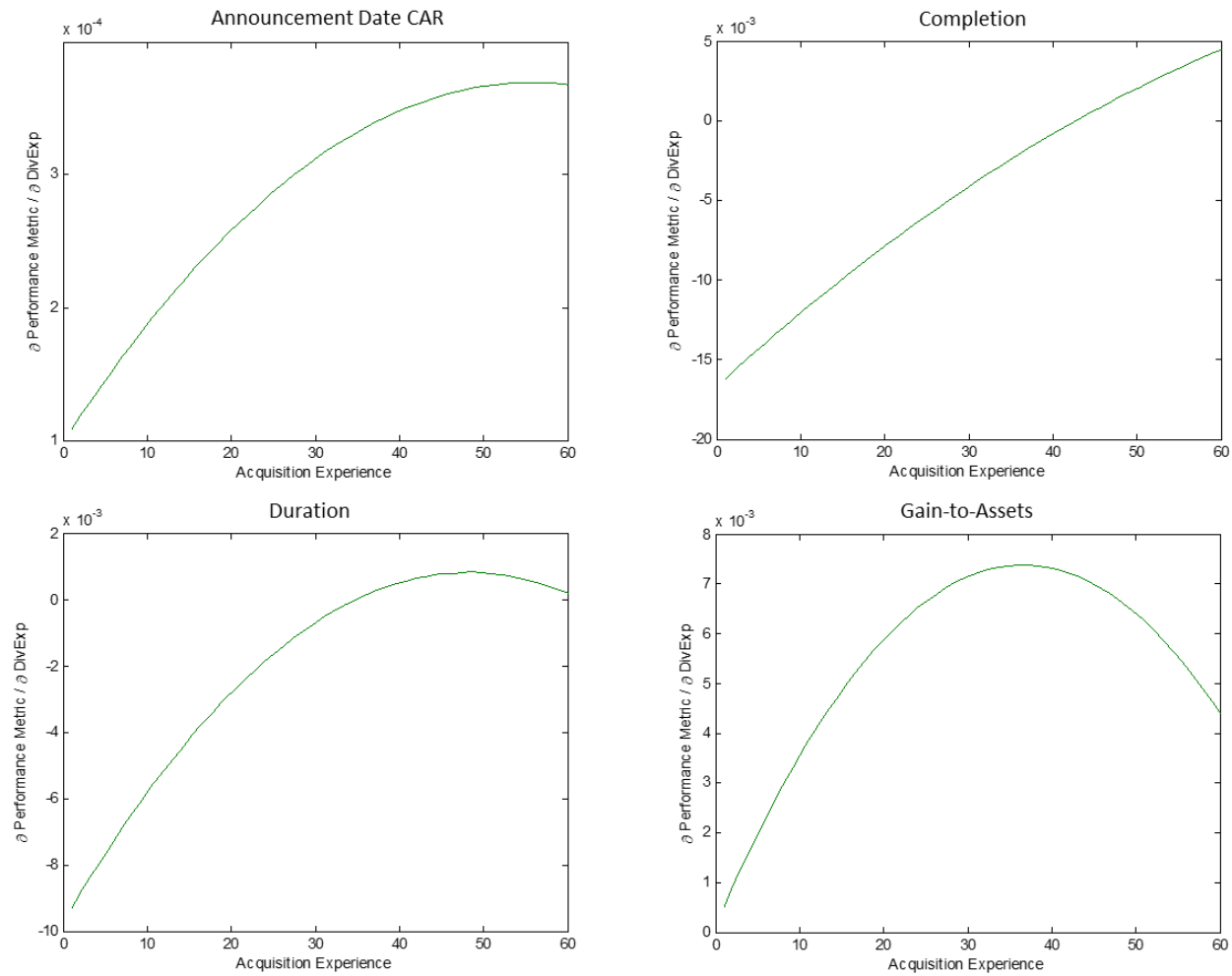


Figure 20: Contour Plot for Hypothesis 2 Discussion. Includes all terms (significant and insignificant).

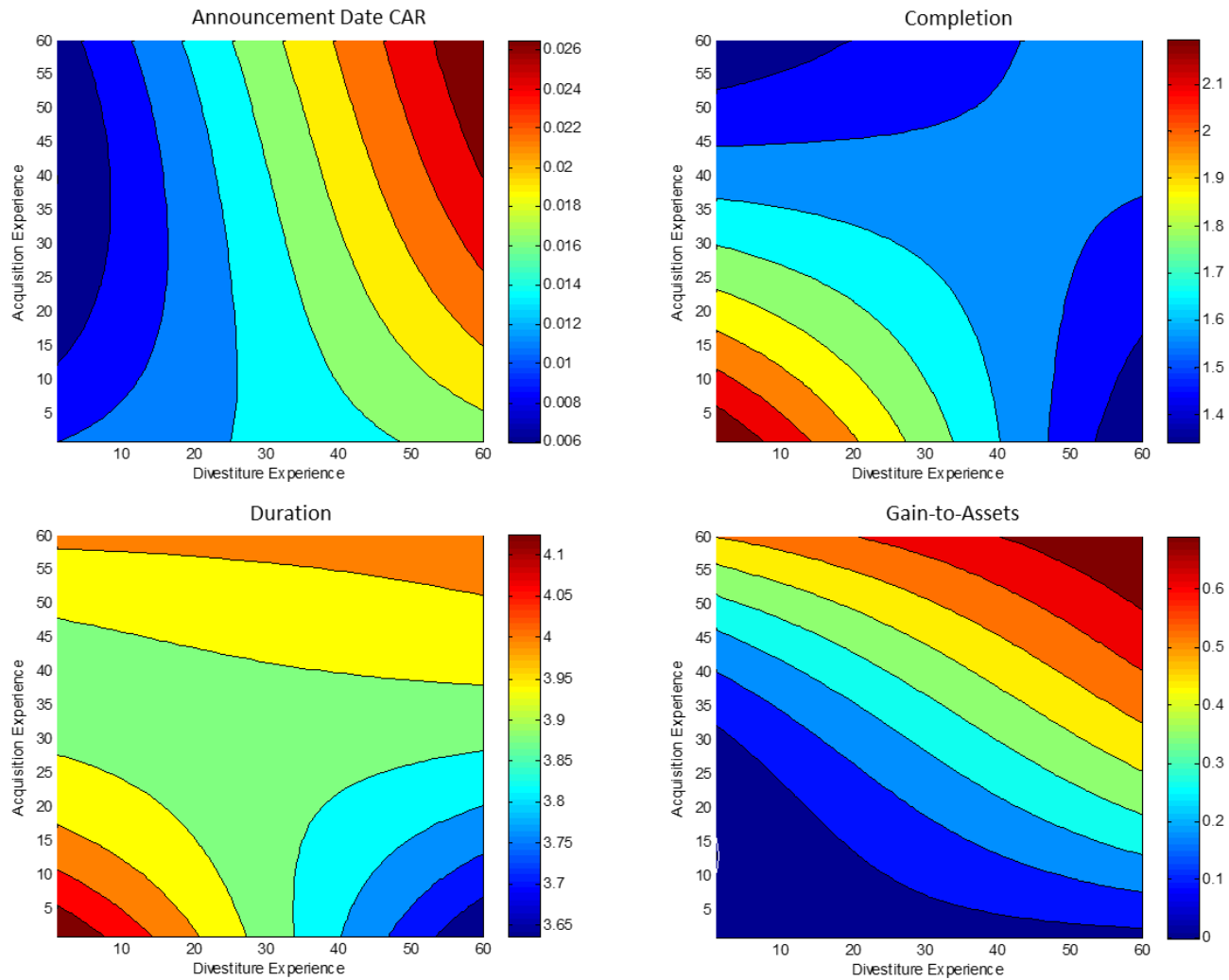


Figure 21: Partial Derivative of Divestiture Performance with Respect to Divestiture Experience for Hypothesis 2 Discussion. Includes all terms (significant and insignificant). Uses Heckman selection model with Gain-to-Assets.

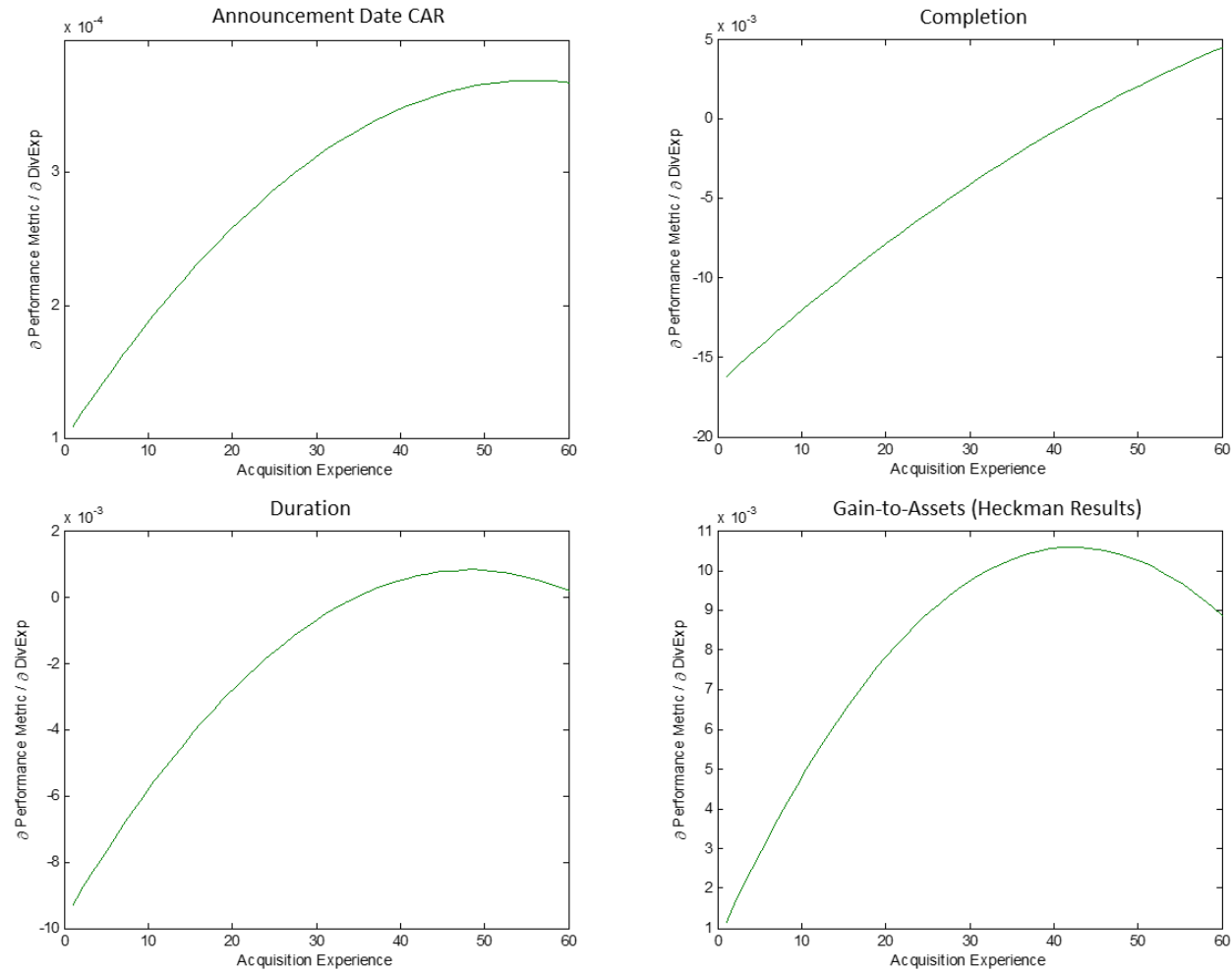


Figure 22: Contour Plot for Hypothesis 2 Discussion. Includes all terms (significant and insignificant). Uses Heckman selection model with Gain-to-Assets.

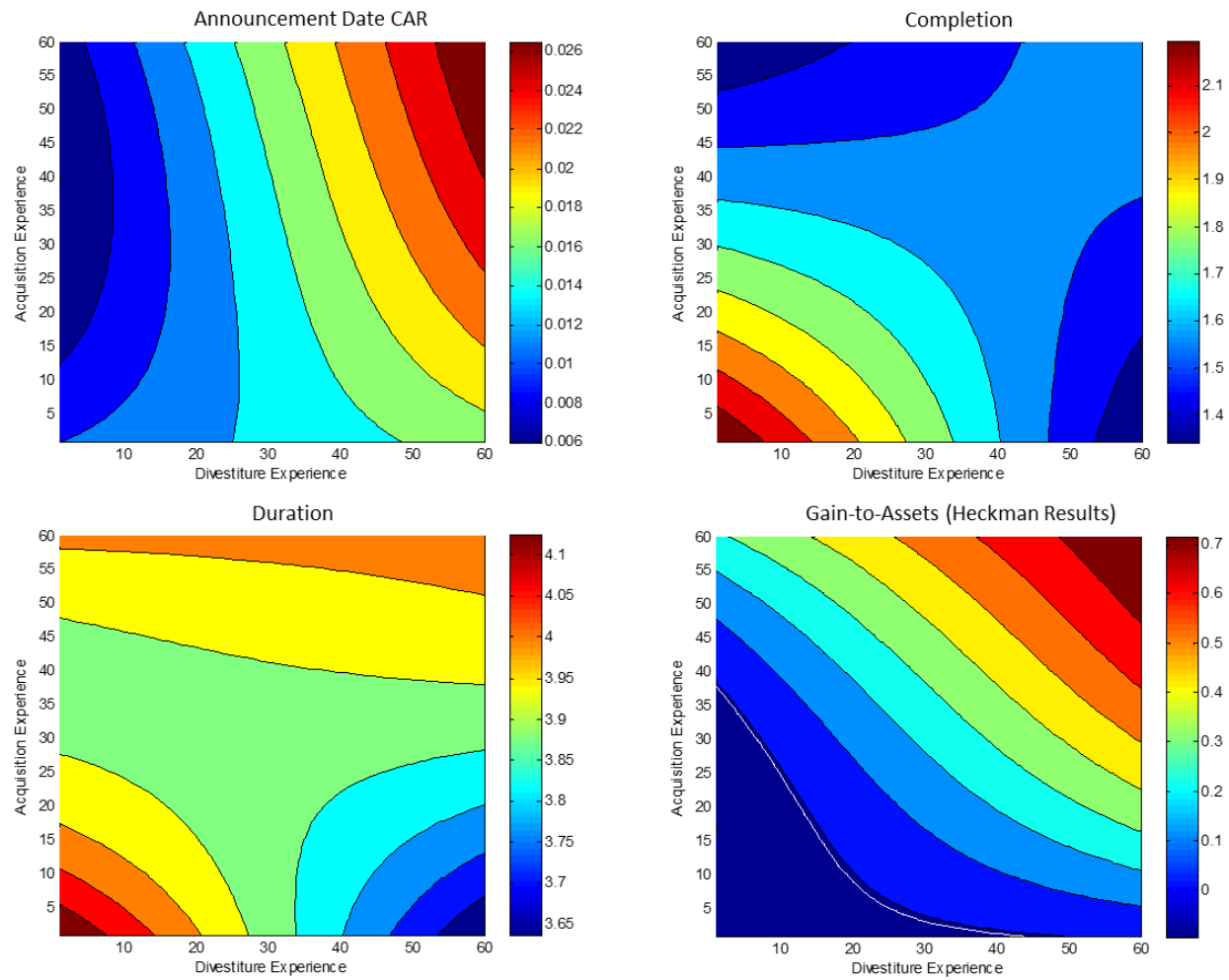


Figure 23: Partial Derivative of Divestiture Performance with Respect to Divestiture Experience for Hypothesis 2 Discussion. Includes only significant terms. Uses Heckman selection model for Gain-to-Assets.

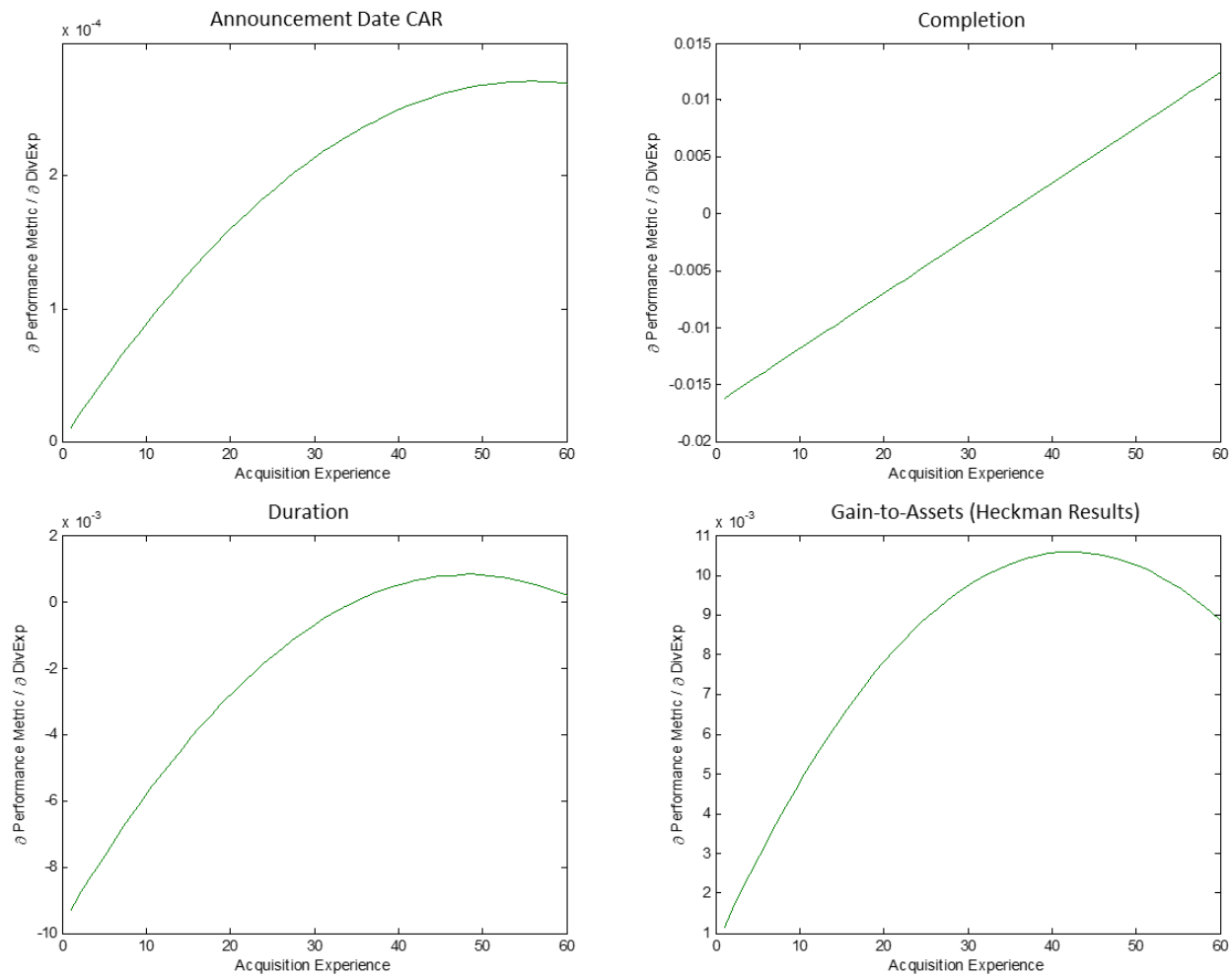
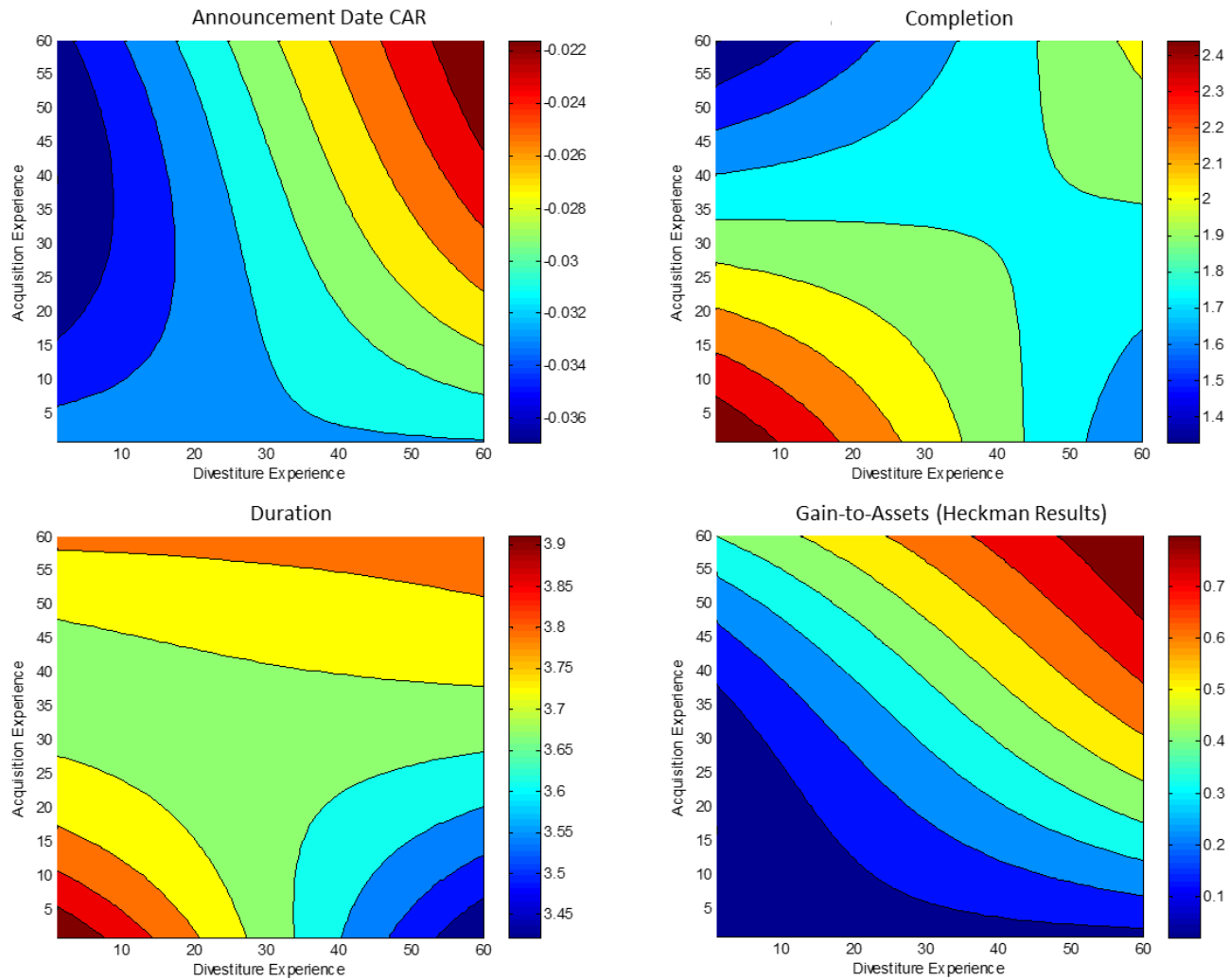


Figure 24: Contour Plot for Hypothesis 2 Discussion. Includes only significant terms. Uses Heckman selection model for Gain-to-Assets.





## **4 EXTERNAL EXPERIENCE TRANSFER IN CORPORATE DIVESTITURE**

### **4.1 INTRODUCTION**

For many firms, learning from other organizations presents a valuable, if not essential, opportunity. Although interorganizational learning is subject to challenges of cost, efficiency, and effectiveness, its potential benefits – including access to experience different than the firm’s own – are substantial (Huber, 1991; Levitt and March, 1988). The firm’s exchange partners – which include customers, suppliers, investors, consultants, and the like – can serve as important sources from which firms may obtain external experience (Bruneel et al., 2010). However, as the roles of these exchange partners vary, so too can their motivations. Such differences may hold consequences for the way in which their experience is transferred to the firm, as well as for the manner in which this external experience impacts firm performance.

This paper investigates experience transfer across firm boundaries in the context of corporate divestiture. Specifically, this paper explores whether and how externally-sourced divestiture experience may impact firm divestiture performance. Two archetypical sources of this external divestiture experience are examined: advisors, as via the investment bank hired by the seller; and competitors, as via the buyer serving as the deal counterparty. While advisors and competitors represent similarly important classes of exchange partners, highly relevant to the firm not only in divestiture but throughout its corporate strategic activities, they also reflect oppositional motives in engagement. Whereas an advisor’s intention is ostensibly to benefit a firm’s performance, a competitor’s intention is ostensibly to impair it. This fundamental divergence in purpose may translate into fundamental differences in the transfer and impact of their experience to the firm.

To examine the role that the source of the experience may play in external experience transfer, two possible paths for external experience transfer are studied. In the first, the external divestiture experience is directly applied to the execution of the firm’s divestiture process. In the

second, the external divestiture experience moderates the relationship between the firm's own divestiture experience and its divestiture performance. As such, the first alternative considers if and how the externally-sourced divestiture experience directly impacts the firm's divestiture performance, and the second considers if and how externally-sourced divestiture experience impacts the firm's learning from its own divestiture experience. Given the underpinning performance-enhancing motivations of bankers and the performance-impairing motivations of buyers in divestiture, it is hypothesized that the direct transfer of external experience will help and hurt the firm's divestiture performance, respectively. In contrast, regarding the moderating path for external experience transfer, it is hypothesized that this path will enhance the firm's divestiture performance, irrespective of the motives of the source. In this case, the firm's interactions with the exchange partner allows for an improvisational learning opportunity that circumvents the issue of source motivation and thereby positions the firm to leverage the external experience in a performance-enhancing way.

Notably, the experience transfer process under examination in this paper – wherein the external divestiture experience from a banker or a buyer exchange partner is transferred to a firm in the context of a divestiture transaction – accurately represents the vast majority of firm relationships. For one, the objective of the exchange relationship is not to learn. Here, the objective is to execute a divestiture, and thus any firm learning is an extra dividend. For another, the relationship is temporary. In this case, the exchange relationship terminates when the divestiture completes. Moreover, while any of the parties may wish to engage with each other in a future transaction, there are no guarantees of repeated exchange going forward. Lastly, the firm closely interacts with the exchange partner. In divestiture, the selling firm typically has extensive and intensive interactions with both its investment bank and the buyer. As such, there is substantial engagement between them. Hence, given the combination of these characteristics, external experience transfer in the context of divestiture – and in the context of firm-advisor and

firm-competitor relations – reflects exchanges that are commonplace and central in a firm's activities. Accordingly, advancing our understanding of whether and how externally-sourced experience may impact firm performance in this context has broad implications for advancing our understanding of external experience transfer as a whole.

This research aims to contribute new insights towards answering the question of whether and how external experience transfer may impact firm performance, as well as how these performance outcomes may change with differences in motives held by the external experience sources. This serves to further our understanding of interorganizational experience transfer, which is a topic of keen interest in both the organizational learning and strategic management literatures. Moreover, by setting this study in the context of corporate divestiture, this research helps to shed more light on the players and process of divestiture, a comparatively understudied but crucial mode of firm scope change. Further, by considering the potential of investment bankers and buyers as sources for firm learning through experience transfer, this research contributes to the growing literature on the role and impact of intermediary actors in firm corporate development activities.

## **4.2 THEORY & HYPOTHESES**

### **4.2.1 External Experience Transfer**

Although learning through first-hand experience is the primary learning process for firms (Dutton and Thomas, 1984; Yelle, 1979), it is by no means the only one. Experience transfer, which may be internal or external, presents another option for firms. In the case of internal experience transfer, the firm transfers its own experience in one area to that in another (Argote and Ingram, 2000; Darr et al., 1995; Halebian and Finkelstein, 1999). In the case of external experience transfer, experience from other organizations, external to the firm, is transferred across the firm's boundaries and subsequently applied towards its needs (Huber, 1991; Levitt and March, 1988).

External experience transfer offers a number of advantages to firms. Critically, the firm does not have to earn the experience itself, which may save time and resources. It is also possible that the firm is simply not positioned to obtain the experience in a first-hand way, and so external transfer provides the firm with experience to which it would not have otherwise had access. By engaging with other organizations, the firm is able to tap into experience that is different than its own, which adds novelty and diversity to its experience repertoire. Firms are not likely to put the external experience to waste, as the uniqueness and limited availability of the external experience relative to the firm's own encourages the firm to treat the external experience as being special and preferred over its own (Menon and Pfeiffer, 2003). Furthermore, not only can this external experience serve to reduce uncertainty in the firm (Geletkanycz and Hambrick, 1997; Haunschild, 1994), but it may also provide the firm with social capital benefits stemming from its association with its transfer exchange partners (Chung, Singh, and Lee, 2000).

However, there are also drawbacks associated with the transfer and deployment of external experience. Notably, the experience has to be "translated" from the source's situation and adapted to the firm's situation, as there will invariably be differences between the two. This incurs costs and the potential for mis-learning should key aspects of the transferred experience be "lost" in translation. Tacitness, complexity, and specificity of the experience can all give rise to casual ambiguity (Barney, 1991; Reed and DeFillippi, 1990; Simonin, 1999) and thus translation losses. Firms may also develop a false understanding of the experience due to undersampling of failure (Denrell, 2003), or through drawing incorrect associations between the experience and its outcomes that they believe to be true via a superstitious learning process (Levitt and March, 1988; Zollo, 2009). While the efficacy of transfer can be improved through interorganization coordination via formal and relational governance mechanisms, these approaches incur their own set of costs to the firm.

There are several ways that firms may tap into other organizations' experiences to catalyze external experience transfer. These options all rest under the umbrella of interorganizational learning, although different types with different ramifications exist among them.

One option is "learning by observing" or vicarious learning. In this case, firms glean the second-hand experience by, for instance, keenly watching their competitors' moves at arm's length (Ingram and Baum, 1997; Garcia-Pont and Nohria, 2002; Greve, 2000; Haunschild and Miner, 1997; Henisz and Delios, 2001; Kim and Miner, 2007). Firms then attempt to apply this external experience to fulfill their own needs, imitating what they believe to have seen. Fundamental to this learning process is visibility into the activity of interest. Some features of the activity will be easier to observe than others, and these will facilitate imitation (Greve 1998, Haunschild & Miner 1997).

Alternatively, firms may establish formal arrangements with other organizations for the purpose of learning and knowledge exchange. These collaborations may be instituted through such mechanisms as alliances, joint ventures, and partnerships. While the formality of structure and process can help to facilitate experience transfer, the associated costs of coordination and management can be significant (Dyer and Singh, 1998; Grant and Baden-Fuller, 2004; Hamel, 1991; Khanna, et al. 1998). As an alternative to accessing the external experience resources through contractual or relational means, firms may instead opt for their outright control through purchase. In this case, the firm acquires another organization with the objective of accessing the target's experience and knowledge resources. Once acquired, the challenge of effectively transferring and integrating the purchased experience within the firm still remains. Across the types of these arrangements, scholars have stressed the important role that the firm's own experience plays in ensuring that the identifying, integrating, and applying the external knowledge for use within the firm (Cohen and Levinthal, 1990; Lane and Lubatkin, 1998).

Numerous studies have empirically demonstrated the impact of absorptive capacity on the success of external experience transfer in formal transfer arrangements (e.g. Alcacer and Oxley, 2014; Penner-Hahn and Shaver, 2005; Sampson, 2005).

A third option available to firms for accessing external experience is again through arrangements or exchanges with other organizations, but in this case, the primary objective of the exchange is not learning. Instead, the firm's exchange partner serves as an inadvertent source of external experience. There are numerous types of such partners -- from customers and suppliers to board members and investors to consultants and distributors -- and each has the potential to serve as an external experience source for the firm, regardless of the goal of the exchange (Bruneel et al., 2010). For example, Alcacer and Oxley (2014) demonstrated that OEM suppliers could learn to move up the value curve through their exchanges with their customers, in spite of the fact that the arrangements were established only with a view to serve as a supplier. Similarly, Salomon and Shaver (2005) empirically showed manufacturing firms could advance their learning and improve innovation performance outcomes through their exporting relationships. Learning through such unplanned external experience transfer has also been demonstrated in firm-board member and firm-banker exchanges (Haunschild, 1994; Haunschild and Beckman, 1998). While each of these exchanges has a defined objective, there is no intent on behalf of the outside partner to share its experience with the firm for the purpose of advancing the firm's learning. Although this type of "informal" external experience transfer with exchange partners may be driven by deliberate appropriation (Dussauge et al., 2000), unintentional access from experience spillovers is also a predominant cause. Indeed, these exchanges often involve high levels of intense interaction between the players (Bruneel et al., 2010). Thus, although these exchange relationships are not formal learning arrangements, they still offer the opportunity for experience and knowledge transfer. Moreover, these types of exchanges are ubiquitous in a firm's strategic activities. They thus reflect a substantive and central opportunity for learning.

Accordingly, this third option for external experience access is the setting used in this paper to examine the question of whether and how external experience transfer may impact firm performance. Thus, this paper considers the potential for external experience transfer to the firm in non-learning focused exchange relationships. Moreover, two principal types of exchange partners, which possess oppositional underpinning motivations with respect to the firm's performance, are considered: advisors and competitors.

In the firm-advisor and firm-competitor exchanges under study in this research, there is the potential for two paths for external experience transfer. The first is a direct transfer of the source's experience to the activity of interest in the firm. Hence, the external experience is directly applied to the activity. As such, some scholars may label this transfer process as experience "sourcing." The motivation of the source can play a crucial role in this transfer process. As the experience is directly applied to the firm's activity, the source's underpinning motive – be it to enhance or impair the firm's performance -- will be reflected in the transfer process and its effects on performance.

In the second path, the external experience may play a moderating role between the firm's own experience and its performance. As such, this case reflects the potential for the external experience to impact the firm's use of its own experience, and thus to learn from its own experience. As the firm interacts with its exchange partner, there is the potential for the firm to learn in a real-time, improvisational way as "the composition and execution of [the] action converge in time" (Moorman and Miner, 1998). The firm's own experience plays a critical role in this extemporaneous learning process (Bergh and Lim, 2008; Bingham et al., 2015; Miner et al., 2001). The firm's own experience serves as a lens through which to evaluate and identify any aspects of the source's experience which may benefit its performance, as via an absorptive capacity style mechanism (Cohen and Levinthal, 1990; Lane and Lubatkin, 1998). As such, the firm is positioned to filter the source's motive from the external experience and thereby ensure its

performance-enhancing implementation. Thus, in the moderating path for external experience transfer, the external experience has a positive, beneficial association with the firm's performance, regardless of the source (and motive) of the external experience.

In other contexts, the type, or characteristics, of experience has been shown to play a major role in the firm's learning process and its performance outcomes. Numerous defining experience characteristics have been examined, including its technological and product market orientation (Nerkar and Roberts, 2004), its explorative and exploitative nature (Hoang and Rothaermel, 2010), its partner specificity (Gulati et al., 2009), its breadth and depth (Eggers, 2012), and its corporate development context (Zollo and Reuer, 2010). With this precedent, there is good reason to consider how the source of the experience, and specifically the underpinning motivations of the source, may influence external experience transfer.

Firms have many types of exchange partners, from customers to suppliers to investors (Bruneel et al., 2010). Two archetypical exchange partners are the firm's advisors and the firm's competitors. These types are meaningful to study not only due to their prevalence, but also because they reflect oppositional motives in engagement. Whereas an advisor's intention is ostensibly to benefit a firm's performance, a competitor's intention is ostensibly to impair it. This core disparity in motive between these two types of experience sources may translate into fundamental differences in the transfer and impact of their experience to the firm.

#### **4.2.2 External Experience Transfer in Corporate Divestiture**

This paper's research setting is corporate divestiture. Before turning to the issue of external experience transfer in corporate divestiture, it is important to first consider the potential role that learning-by-doing may play in the context of corporate divestiture. As discussed in Essays 1 and 2, while firm learning through its own direct experience is a fundamental means for learning, it is not always viable or sufficient. Moreover, there are potential risks due to mis-learning. The baseline hypothesis pertaining to learning-by-doing in Essay 2 is repurposed here:



*Baseline Hypothesis (H0): Firm divestiture experience is positively associated with firm divestiture performance.*

Studying external experience transfer in the divestiture setting affords the opportunity to examine external experience transfer in exchange relationships from two major types of experience sources: advisors and competitors. In divestiture, two of the firm's most critical exchange partners are the investment bank it hires (its advisor) and the buyer involved in the transaction (its competitor). The firm engages in a high level of interaction with both of these players throughout the divestiture process, thus setting the stage for possible experience transfer.

Notably, neither the firm-banker nor the firm-buyer exchanges in divestiture represent formal learning arrangements. However, both bankers and buyers do have the potential to serve as sources of substantive divestiture experience for the firm. Investment bankers, by definition, have extensive and diverse experience in corporate development activities, including divestiture. Buyers, just like the focal selling firm, also have the opportunity to accumulate divestiture experience through engaging in divestiture. In this paper, those buyers with "high experience," or a level of accumulated divestiture experience higher than the median, are of particular interest. Furthermore, it is the nature of divestiture that no two divestitures are exactly alike. Therefore, the buyer's divestiture experience will reflect differences and variety relative to the firm's own. In sum, although the firm-banker and firm-buyer exchange relationships in divestiture are not formal learning arrangements, the divestiture experience of the bankers and buyers do create a potential platform for external experience transfer to the firm, wherein the firm may be able to learn to divest through interacting and engaging with these players during the divestiture process.

#### **4.2.2.1 Investment Banks as a Source of Divestiture Experience**

Investment banks are a frequent intermediary in many types of a firm's strategic activities, including scope-changing transactions. Although their examination in the context of divestiture has been sparse (see Brauer et al., 2014 for an exception), scholars have examined the

reasons for which they are engaged by firms, their roles, and the advantages and disadvantages of their use in other corporate development activities like acquisition (Hayward, 2003; Golubov et al., 2012; Porrini, 2006; Servaes and Zenner, 1996; Sleptsov et al., 2013). In acquisitions, investment banks may get involved in such activities as identifying acquisition target, conducting due diligence, providing and interpreting information about the market, confirming appropriate pricing, and financing the acquisition. As investment banks are serving the firm in an advisory capacity, their recommendations are free from the biases that may plague an insider's assessment and execution of the transaction.

Yet, evaluations of investment banker participation in corporate transactions have been mixed (e.g. Hayward, 2003; Golubov et al., 2012; Sleptsov, 2010). Given the potential for negative performance consequences to the firm in engaging an investment bank, it is not surprising that the investment bank's role in corporate development is often examined through an agency lens (Eisenhardt, 1989; Kesner et al., 1994; Sharma, 1997). In the case of divestiture, the expertise for which the banks are hired (attained through their extensive and diverse divestiture experiences) also creates information asymmetry issues between the firm and the bank. Moreover, should the divestiture fail, the risks and repercussions to the bank, while not negligible, are certainly less than those facing the firm. Hence, there is the potential for banks to behave opportunistically when advising firms during divestiture.

However, there are checks and balances in place to counter this potential opportunism. Importantly, banks need to preserve their reputations in order to be hired for future transactions, be it by the focal firm or by others (Chemmanur and Fulghieri, 1994). Should the deal's performance deviate too far from acceptable standards, the bank's reputation will be tarnished. Moreover, even though the banks and the firms may have disparate goals, their impact on divestiture performance is the same. For example, the banks want to collect their fees, and fee structures may be contingent upon deal completion. While firms too are aiming for deal

completion, their motivations stem from a cost perspective. Likewise, both banks and firms strive for short-duration deals; although the bank's preference is driven by their desire to collect their fees faster and free their resources earlier, more strategic reasons cause the firm's preference for shorter divestitures. Thus, despite the potential for agency problems, there are many countervailing forces in place to ensure that the direct external transfer of the bank's divestiture experience will benefit firm divestiture performance. Thus:

*Hypothesis 1 (H1): Investment bank divestiture experience is positively associated with firm divestiture performance.*

Likewise, when the bank's external divestiture experience moderates the relationship between the firm's own divestiture experience and its divestiture performance, it is again predicted that it will benefit the firm's divestiture performance. Therefore:

*Hypothesis 2 (H2): Investment bank divestiture experience positively moderates the relationship between firm divestiture experience and firm divestiture performance.*

#### **4.2.2.2 Buyers as a Source of Divestiture Experience**

In a divestiture transaction, the buyer is the selling firm's counterparty in the deal. As such, the buyer is the selling firm's competitor for the duration of the divestiture process. Although it has been shown that competitors can work collaboratively in exchange relationships like alliances (Dussauge et al., 2000; Gnyawali et al., 2006), the motivating goals of the buyer in divestiture are oppositional to those of the selling firm. Indeed, while the buyer aims to minimize the price it pays for the target business unit, the seller aims to maximize it in order to make as much money on the deal as possible. Likewise, a good divestiture performance outcome for the buyer could be a deal that does not complete – should the buyer become uncomfortable with how the divestiture is progressing, there are far fewer disadvantages – financially, operationally, and reputationally – for the buyer to walk away from the deal relative to the seller. Furthermore,

there is far less impetus for the buyer to aim for a “quick close” divestiture than for the seller. The buyer, in fact, would prefer a longer duration, in order to extend the time available for due diligence and perhaps strengthen its negotiating position. Thus, when a buyer is the source of the external divestiture experience that is transferred to the firm’s divestiture process, the competitive undermining motivations of the buyer will cause its experience to impair the firm’s divestiture performance. Hence:

*Hypothesis 3 (H3): Buyer divestiture experience is negatively associated with firm divestiture performance.*

However, in spite of the competitive motives of the buyer, when its transferred divestiture experience serves to moderate the relationship between the firm’s divestiture experience and its divestiture performance, the external divestiture experience will benefit the firm’s divestiture performance. In this case, as the firm is learning to divest in a real-time, improvisational way as it jockeys with the seller, the firm’s divestiture experience serves to help the firm identify those aspects of the seller’s divestiture experience that will be useful in improving its performance. Therefore:

*Hypothesis 4 (H4): Buyer divestiture experience positively moderates the relationship between firm divestiture experience and firm divestiture performance.*

Illustrations of the two models (one focused on bankers and one focused on buyers) proposed by the hypotheses are provided in Figure 25 and Figure 26. It merits highlighting that, in order to test the theoretical mechanisms hypothesized in this paper, it is not necessary to conduct the analyses using a single “combined” model that incorporates both the banker and the buyer relationships simultaneously. While a combined model would offer the opportunity to conduct a comparison between the banker-based and buyer-based effects, assessing their relative impact on divestiture performance is not the focus of this paper. Furthermore, the banker and

buyer data each pose the potential for biasing the results due to distinct non-random selection issues (discussed subsequently). These potential selection issues cannot be addressed simultaneously in a combined model. Thus, it makes solid theoretical and empirical sense to work with two separate models, one which is banker-based and one which is buyer-based.<sup>18</sup>

## **4.3 METHODOLOGY**

### **4.3.1 Data & Sample**

The sample of divestiture transactions and the data sources used are as described in Essays 1 and 2. Additional data for the instrumental variables were obtained from the Federal Reserve Bank of St. Louis and the World Development Indicators provided by the World Bank.

### **4.3.2 Variables**

#### **4.3.2.1 Dependent variables**

Divestiture performance is the outcome of primary interest in this paper, and it is measured in three ways: *Announcement Date CAR*, *Completion*, and *Duration*. These variables remain as defined in Essays 1 and 2. Two additional variables, *Advisor Flag* and *Buyer Flag*, are used in the first stage of the treatment effects model and the Heckman selection model, respectively. These will be fully described in the “Analyses and Results” section.

#### **4.3.2.2 Independent variables**

The variable *Divestiture Experience* measures the firm’s cumulative divestiture experience. Just as in Essay 1, this variable is calculated by depreciating the count of the number of divestiture transactions undertaken by the parent firm on a linear basis over the twenty-six years of the sample. Both complete and incomplete divestitures are included in the count.

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<sup>18</sup> A combined model was developed and used for brief, high-level assessment in the “Discussion” section. Results are in Table 27 (for *Announcement Date CAR*), Table 28 (for *Completion*) and Table 29 (for *Duration*) in the Appendix. It must be underscored that potential biases due to non-random selection are unaddressed in these results.

The variable *Bank Divestiture Experience* measures the cumulative divestiture experience of the investment bank advisor engaged by the firm for a particular transaction. To calculate the divestiture experience level of a particular investment bank, the cumulative number of divestiture transactions in which the bank was hired to advise a divesting firm was linearly depreciated over the twenty-six years of the sample. Both complete and incomplete divestitures are again included in the count. If the firm hired several investment banks for a single transaction, the bank with the highest level of cumulative depreciated divestiture experience amongst the banking team members was identified, and its experience was used in *Bank Divestiture Experience*.<sup>19</sup>

The divestiture experience of the buyer (i.e. the acquirer) in the divestiture transaction is another factor of major interest in this paper. In this case, the divestiture experience of the buyer in the transaction was determined by linearly depreciating the cumulative count of divestiture transactions (both complete and incomplete) that were undertaken by the buyer over the twenty-six years of the sample. This value was used in *Buyer Divestiture Experience*. However, the theoretical underpinnings of the experience transfer processes being investigated in this paper are premised on the idea that the external experience being transferred offers more or different insights than the firm currently possesses. As such, it was necessary to consider those buyers with a meaningful level of divestiture experience. Therefore, for each year, the median *Buyer Divestiture Experience* of all buyers was determined. For each buyer, the binary variable *High Buyer Experience* is then set equal to one if *Buyer Divestiture Experience* is greater than this

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<sup>19</sup> Numerous alternative operationalizations for *Banker Divestiture Experience* were examined for the cases where the firm hired more than one investment bank. These included using the average of the divestiture experience of each of the team members, the median, the sum of their experience levels, and the experience of the least experienced bank in the group. As this variable is meant to capture the level of banker divestiture expertise that is available to the firm, using the experience level of the most experienced banker in the team was most appropriate. Using the sum of their experiences would likely overstate the experience available, as bankers' expertise may overlap and the most experienced banker likely serves as the firm's primary interface to the group.

median, and is set equal to zero otherwise.<sup>20</sup> The variable *High Buyer Experience* is used in the regression models.<sup>21</sup>

*Federal Funds Rate* and *U.S. M&A Volume Change* are instrument variables used in the treatment effects models for the banker-based analyses. *Near International Hub* and *Exchange Rate Index* are instrument variables that are used in conjunction with the Heckman selection models for the buyer-based analyses. These will be fully described in the “Analyses and Results” section.

#### **4.3.2.3 Control variables**

The control variables remain as defined in Essays 1 and 2. These variables control for parent firm characteristics (*ln(Total Assets)*, *Negative Net Income*, *Leverage*, *Tobin’s q*, *Return on Equity* and *Herfindahl Index*), characteristics of the parent-unit relationship (*Unit-Parent Size Ratio*, *Unit-Parent Geographic Relatedness* and *Unit-Parent Industrial Relatedness*) and the parent firm’s divestiture operations (*Divestiture Program*).

## **4.4 ANALYSES & RESULTS**

### **4.4.1 Descriptive Statistics**

Descriptive statistics and the correlation matrix for the variables used in the analyses are presented in Table 15. As would be expected, investment banks accumulate a high level of divestiture experience. The mean of *Bank Divestiture Experience* is 146 divestitures, and its maximum is 389 divestitures (both values reflect depreciated divestiture experience counts). The

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<sup>20</sup> In addition to using the median as the high-low experience cutpoint, a number of other cutpoint levels (e.g. the 25<sup>th</sup> percentile, the 75<sup>th</sup> percentile, the 95<sup>th</sup> percentile) were explored. The 50<sup>th</sup> percentile was selected for use in the analyses since it reflected the most conservative approach that still allowed for the theoretical mechanisms of interest to be evaluated.

<sup>21</sup> As a test of robustness, the buyer-based regressions in this paper were also performed using the continuous *Buyer Divestiture Experience*. As would be expected, results were weakened. Results for these regressions are included in the Appendix, in Table 24 (with *Announcement Date CAR* as the dependent variable), Table 25 (with *Completion* as the dependent variable), and Table 26 (with *Duration* as the dependent variable).

levels of *Firm Divestiture Experience* and *Buyer Divestiture Experience* are on par with each other, with means of 7 divestitures and 5 divestitures, respectively, and a maximum of 122 divestitures (these values also reflect depreciated divestiture experience counts). This similarity helps to confirm the appropriateness of using the binary *High Buyer Divestiture Experience* measure in the analyses.

*Bank Divestiture Experience* and *High Buyer Divestiture Experience* each show significant correlations with *Duration* ( $p < 0.01$  and  $p < 0.05$ , respectively), but only *Banker Divestiture Experience* has a significant correlation with *Completion* ( $p < 0.01$ ). Neither have significant correlations with *Announcement Date CAR*. Notably, the low correlation between *Firm Divestiture Experience* and *Banker Divestiture Experience* (0.14,  $p < 0.01$ ) and the low correlation between *Firm Divestiture Experience* and *High Buyer Divestiture Experience* do not suggest the presence of any collinearity issues between these variables.

#### 4.4.2 Model Specification

There are four regression models of primary focus in this paper. Two correspond to the banker-based analyses and are used to test Hypothesis 1 and Hypothesis 2. Two correspond to the buyer-based analyses and are used to test Hypothesis 3 and Hypothesis 4. These models are as follows:

Equation 8: Regression Model for Testing Hypothesis 1 (Direct Effect – Banker Divestiture Experience)

$$(Y_{ij})_k = \beta_{k0} + \beta_{k1} \text{Firm Divestiture Experience}_{ij} + \beta_{k2} \text{Banker Divestiture Experience}_{ij} + \sum_{n=3}^{N(k)} (\beta_{kn} X_{ij(n-2)}) + (\epsilon_{ij})_k$$



Equation 9: Regression Model for Testing Hypothesis 2 (Moderating Effect – Banker Divestiture Experience)

$$(Y_{ij})_k = \beta_{k0} + \beta_{k1} \text{Firm Divestiture Experience}_{ij} + \beta_{k2} \text{Banker Divestiture Experience}_{ij} + \beta_{k3} (\text{Firm Divestiture Experience}_{ij} \times \text{Banker Divestiture Experience}_{ij}) + \sum_{n=4}^{N(k)} (\beta_{kn} X_{ij(n-3)}) + (\epsilon_{ij})_k$$

Equation 10: Regression Model for Testing Hypothesis 3 (Direct Effect – High Buyer Divestiture Experience)

$$(Y_{ij})_k = \beta_{k0} + \beta_{k1} \text{Firm Divestiture Experience}_{ij} + \beta_{k2} \text{High Buyer Divestiture Experience}_{ij} + \sum_{n=3}^{N(k)} (\beta_{kn} X_{ij(n-2)}) + (\epsilon_{ij})_k$$

Equation 11: Regression Model for Testing Hypothesis 4 (Moderating Effect – High Buyer Divestiture Experience)

$$(Y_{ij})_k = \beta_{k0} + \beta_{k1} \text{Firm Divestiture Experience}_{ij} + \beta_{k2} \text{High Buyer Divestiture Experience}_{ij} + \beta_{k3} (\text{Firm Divestiture Experience}_{ij} \times \text{High Buyer Divestiture Experience}_{ij}) + \sum_{n=4}^{N(k)} (\beta_{kn} X_{ij(n-3)}) + (\epsilon_{ij})_k$$

Wherein:

Y = divestiture performance	i = divestiture
X = control variable	j = selling parent firm
β = constant coefficient	k = performance metric index
ε = error term	n = control variable summation index

The divestiture performance variable Y has three alternatives (*Announcement Date CAR*, *Completion*, *Duration*), and therefore the performance metric index k has a range of one to three. The models for *Completion* and *Duration* include all ten control variables described earlier. The models for *Announcement Date CAR* use seven of the control variables. Since CAR is based on

market performance, it was necessary to exclude any controls that are also based on market performance (*Leverage*, *Tobin's q*, and *Unit-Parent Size Ratio*) from the models using *Announcement Date CAR* as the dependent variable.

The presence of the hypothesized direct effects of *Banker Divestiture Experience* and *High Buyer Divestiture Experience* on divestiture performance are tested using the models represented by Equation 8 and Equation 10, respectively. Their hypothesized moderation effects on the relationship between *Firm Divestiture Experience* and divestiture performance are tested using the models represented by Equation 9 and Equation 11, respectively. Note that to properly test for the hypothesized direct relationship between *Banker Divestiture Experience* and divestiture performance in Hypothesis 1, it would not be appropriate to conduct the analysis using the *Banker Divestiture Experience* in Equation 9. Attempting to use Equation 9 would only provide the conditional effect of *Banker Divestiture Experience* on divestiture performance (i.e. technically reflecting the case of zero *Divestiture Experience*) due to the presence of the interaction term. In contrast, the estimation of Equation 8 (which does not have the interaction term) provides the main effect of *Banker Divestiture Experience* on divestiture performance  $Y$ . The same holds true for the High Buyer Experience models in Equation 10 and Equation 11.

Ordinary least squares (OLS) regression is used to estimate the models for *Announcement Date CAR*, logistic regression is used to estimate the models for *Completion*, and negative binomial regression is used to estimate the models for *Duration*. In all regressions, industry fixed effects (based on the selling parent firm's primary 2-digit SIC code) and year fixed effects are used.

#### **4.4.3 The Choice to Divest**

In this paper, there is the potential that non-random selection associated with the firm's decision to divest could be biasing the firm's divestiture performance results. Coarsened exact matching procedures are used to address this possibility, using the same approach as was

employed in Essays 1 and 2. A comparison between the regression results using the full sample versus the CEM sample (Table 23 in the Appendix) illustrates the robustness of the results to controlling for non-random selection in the firm's decision to divest a particular business unit.

#### **4.4.4 The Choice to Hire an Investment Bank - Treatment Effects Model**

In each divestiture transaction, the selling parent firm has the choice of whether or not to hire an investment bank. As a result, there is non-random selection in the observations that are treated (the divestitures in which selling firms chose to hire an investment bank) and those which are not (the divestitures in which the decision was made to not hire an investment bank). A treatment effects model is used to account for the potential bias in the divestiture performance results stemming from the firm's decision of whether or not to hire an investment bank.

The first stage of the two-stage treatment effects model predicts the likelihood that the selling firm hires an investment bank for its divestiture transaction. The first-stage dependent variable, *Advisor Flag*, is set equal to one if a bank was used, and is zero otherwise. The second stage estimates the regression models for divestiture performance. Two instrumental variables are used in the first stage model: *Federal Funds Rate* and *U.S. M&A Volume Change*.

*Federal Funds Rate* is the average effective federal funds rate for a given year. Higher federal funds rates mean that it is more expensive to borrow money. In such an environment, buyers may be more reticent to part with their money, making it more difficult for selling firms to divest business units. As such, as the federal fund rate increases, selling firms are more likely to engage an investment bank to assist with the divestiture.

*U.S. M&A Volume Change* is the yearly percent change in the U.S. M&A market, based upon deal value. In a deal-rich environment, there are many potential sellers and buyers eager to do deals. Furthermore, since the investment banks are likely busier in a deal-rich environment, they may seize the opportunity to raise their fees. Thus, as M&A volume increases, selling firms are less likely to hire an investment bank to assist with the divestiture.

#### 4.4.5 Availability of Buyer Divestiture Experience Data - Heckman Selection Model

In this research, buyer divestiture experience data are only available for buyers that are public, U.S.-headquartered companies. Divestitures transactions for which buyer experience data are available are thus not randomly selected, which could in turn bias the regression results. This sample selection problem is addressed through the use of a two-stage Heckman selection model.

The first stage of the Heckman selection model predicts the likelihood that the buyer in the divestiture transaction will be a public, U.S.-headquartered firm (and thus will have divestiture experience data available). The binary outcome variable, *Buyer Flag*, is set equal to one if divestiture experience data is available for the buyer, and is zero otherwise. The second stage estimates the divestiture performance regression models. Two instrumental variables are used in the first stage model: *Near International Hub* and *Exchange Rate Index*.

*Near International Hub* is a binary variable that captures the selling firm's physical accessibility to potential international buyers. It is set equal to one if the selling firm is headquartered in an area that serves as the primary international gateway to Europe, Asia, or South America (i.e. the Northeast tri-state region of New York, Connecticut and New Jersey (JFK/EWR); California (SFO/LAX); and Florida (MIA)). Easier access to potential international buyers reduces the likelihood that the buyer will be a U.S. headquartered public company, but should have no correlation with divestiture performance. For precedent for the successful use of this type of instrument, see Bernstein et al. (2016).

*Exchange Rate Index* is the annual average U.S. dollar real effective exchange rate index, as recorded by the World Bank in its World Development Indicators database. As defined by the World Bank, this is the nominal effective exchange rate (a measure of the value of the U.S. dollar against a weighted average of several foreign currencies) divided by a price deflator. Essentially, it is a measure of the strength of the U.S. dollar. The U.S. dollar is often viewed as the world's safe haven currency. Likewise, investing in U.S.-based assets is often viewed as a safe haven

investment, especially in times of turmoil (as would be reflected in a devaluation of a home country currency). As such, as the U.S. dollar exchange rate index increases, the propensity that the buyer of a U.S.-selling firm's business unit will be a foreign buyer increases.

#### **4.4.6 Hypothesis Testing**

There are two sets of regression results: one set for the banker-based models, and one set for the buyer-based models. For the banker-based models, the OLS regression results for *Announcement Date CAR* are presented in Table 16, the logit model regression results for *Completion* are provided in Table 17, and the negative binomial regression results for *Duration* are provided in Table 18. In each of these tables, for its respective divestiture performance measure, Model 1 is used to test the baseline hypothesis H0, Model 7 is to test H1, and Model 8 is used to test H2. The tables are constructed such that the simplest model (for testing H0) is illustrated first. Key model components are then added in a step-by-step fashion, culminating in the models used to test H1 and H2.

For the buyer-based models, the OLS regression results for *Announcement Date CAR* are presented in Table 19, the logit model regression results for *Completion* are provided in Table 20, and the negative binomial regression results for *Duration* are provided in Table 21. In each of these tables, for its respective divestiture performance measure, Model 1 is used to test the baseline hypothesis H0, Model 7 is to test H3, and Model 8 is used to test H4. These tables are also constructed using the same step-by-step, or component-by-component, approach as was used in the buyer-based tables.

**--- Insert Buyer-Based Tables here: Table 16, Table 17, and Table 18 ---**

**--- Insert Banker-Based Tables here: Table 19, Table 20, and Table 21 ---**

In these tables for *Announcement Date CAR* (which use OLS), the estimated coefficients are measured in the units of the outcome variable divided by the units of its predictor variable. In the tables for *Completion* (which use logistic regression) the estimated coefficients are measured in units of log-odds. In the tables for *Duration* (which use negative binomial regression), the estimated coefficients in Table 10 are interpreted as a difference between the logs of the expected counts (i.e. duration days) for a unit change in the associated predictor variable.

As in Essay 1 and Essay 2, for the *Duration* performance regressions (Table 10), a decrease in the duration of the divestiture process is interpreted as a positive performance result, since firms typically want divestiture transactions to close as quickly as possible. For the other three performance variables, positive increases (e.g. a larger *Announcement Date CAR*) are viewed as beneficial improvements in performance.

The baseline hypothesis H0 predicts that there is a positive relationship between firm divestiture experience and divestiture performance. These results are exactly as described in Essay 1, wherein H0 is supported when divestiture performance is measured as *Announcement Date CAR* and *Duration*, but is unsupported when divestiture performance is measured as *Completion*.

The hypotheses H1 and H2 concern the role of investment bank divestiture experience on divestiture performance. H1 predicts that investment bank divestiture experience is positively associated with firm divestiture performance. In evaluating H1 it is useful to return to the equation for the regression model, Equation 8. It is restated here in a simplified format as Equation 12:

Equation 12: Simplified Format of the Regression Model for Testing Hypothesis 1 (Banker – Direct Effect)

$$Y = \beta_0 + \beta_1 \text{Firm Divestiture Experience} + \beta_2 \text{Banker Divestiture Experience} + \sum_{n=4}^N (\beta_n X_{(n-3)}) + \epsilon$$

Wherein:

Y = divestiture performance

X = control variable

$\beta$  = constant coefficient

$\epsilon$  = error term

n = control variable summation index

Turning to the regression results, Model 7 in Table 16 (*Announcement Date CAR*), in Table 17 (*Completion*), and in Table 18 (*Duration*) each correspond to Equation 13 above. Starting with *Announcement Date CAR*, Model 7 in Table 16 shows that the coefficient estimate  $\beta_2$  for *Banker Divestiture Experience* is significant and positive ( $\beta_2=0.000$ ,  $p<0.05$ ). In contrast, for *Completion* (Model 7 of Table 17), the coefficient estimate  $\beta_2$  for *Banker Divestiture Experience* is significant but negative ( $\beta_2=-0.0013$ ,  $p<0.10$ ), which is the sign opposite as hypothesized. For *Duration*, Model 7 of Table 18 shows that the coefficient estimate  $\beta_2$  for *Banker Divestiture Experience* is significant and positive ( $\beta_2=0.0012$ ,  $p<0.01$ ), which is the opposite sign as hypothesized for *Duration*. Taken together, H1 is supported when divestiture performance is measured as *Announcement Date CAR*, unsupported when it is measured as *Completion*, and unsupported when it is measured as *Duration*.

Hypothesis 2 predicts that investment bank divestiture experience positively moderates the relationship between firm divestiture experience and firm divestiture performance. Here again, it is useful to return to the equation for the regression model, Equation 9. It is restated here in a simplified format as Equation 14:

Equation 14: Simplified Format of the Regression Model for Testing Hypothesis 2 (Banker – Moderating Effect)

$$Y = \beta_0 + \beta_1 \text{Firm Divestiture Experience} + \beta_2 \text{Banker Divestiture Experience} + \beta_3 (\text{Firm Divestiture Experience} \times \text{Banker Divestiture Experience}) + \sum_{n=4}^N (\beta_n X_{(n-3)}) + \epsilon$$

The partial derivative of Equation 14 with respect to *Firm Divestiture Experience* is:

Equation 15:

$$\frac{\partial Y}{\partial(\text{Firm Div. Exp.})} = \beta_1 + \beta_3(\text{Banker Divestiture Experience})$$

Wherein:

Y = divestiture performance

X = control variable

$\beta$  = constant coefficient

$\epsilon$  = error term

n = control variable summation index

The hypothesized moderating role of *Banker Divestiture Experience* in the relationship between *Firm Divestiture Experience* and divestiture performance Y is easily tested using the partial derivative in Equation 15. Here,  $\beta_3$  represents the slope of the relationship between *Banker Divestiture Experience* and the partial derivative of performance Y with respect to *Firm Divestiture Experience* ( $\frac{\partial Y}{\partial(\text{Firm Div. Exp.})}$ ).

As for the regression results, Model 8 in Table 16 (*Announcement Date CAR*), in Table 17 (*Completion*), and in Table 18 (*Duration*) each correspond to Equation 14 above. The results of Model 8 in Table 16 for *Announcement Date CAR* show that the coefficient of the interaction term,  $\beta_3$ , is insignificant. For *Completion*, the results of Model 8 of Table 17 show that coefficient of the interaction term is significant and negative ( $\beta_3=-0.0002$ ;  $p<0.01$ ). This is opposite the sign hypothesized. For *Duration*, the results of Model 8 of Table 18 show that coefficient of the interaction term is significant and positive ( $\beta_3=0.000$ ;  $p<0.01$ ). This is also opposite the sign hypothesized. In the cases of *Completion* and *Duration*, the significance of each of the interaction terms in Equation 14 was further evidenced through the significance of joint tests of the coefficients. Taken together, these results can be visually interpreted as per Figure 27. Overall, H2 is not supported for *Announcement Date CAR*, *Completion* or *Duration*.

--- Insert Figure 27 here ---



Next, turning to the buyer-based models, H3 predicts that buyer divestiture experience is negatively associated with firm divestiture performance. Again, in evaluating H3 it is useful to return to the equation for the regression model, Equation 10. It is restated here in a simplified format as Equation 16:

Equation 16: Simplified Format of the Regression Model for Testing Hypothesis 3 (High Buyer – Direct Effect)

$$Y = \beta_0 + \beta_1 \text{Firm Divestiture Experience} + \beta_2 \text{High Buyer Divestiture Experience} + \sum_{n=3}^N (\beta_n X_{(n-2)}) + \epsilon$$

Wherein:

Y = divestiture performance

X = control variable

$\beta$  = constant coefficient

$\epsilon$  = error term

n = control variable summation index

Turning to the regression results for H3, Model 7 in Table 19 (*Announcement Date CAR*), in Table 20 (*Completion*), and in Table 21 (*Duration*) each correspond to Equation 16 above. Starting with *Announcement Date CAR*, Model 7 in Table 19 shows that the coefficient estimate  $\beta_2$  for *High Buyer Divestiture Experience* is significant and positive ( $\beta_2=0.0038$ ,  $p<0.10$ ), which is opposite the sign hypothesized. For *Completion* (Model 7 of Table 20), the coefficient estimate  $\beta_2$  for *High Buyer Divestiture Experience* is significant and negative as hypothesized ( $\beta_2=-0.329$ ,  $p<0.01$ ). For *Duration*, Model 7 of Table 21 shows that the coefficient estimate  $\beta_2$  for *High Buyer Divestiture Experience* is insignificant. Taken together, H1 is supported when divestiture performance is measured as *Completion*, but unsupported when it is measured as *Announcement Date CAR* and *Duration*.

Lastly, H4 predicts that buyer divestiture experience positively moderates the relationship between firm divestiture experience and firm divestiture performance. For convenience, its regression model, Equation 11 is restated here in a simplified format as Equation 17:

Equation 17: Simplified Format of the Regression Model for Testing Hypothesis 4 (High Buyer – Moderating Effect)

$$Y = \beta_0 + \beta_1 \text{Firm Divestiture Experience} + \beta_2 \text{High Buyer Divestiture Experience} + \beta_3 (\text{Firm Divestiture Experience} \times \text{High Buyer Divestiture Experience}) + \sum_{n=4}^N (\beta_n X_{(n-3)}) + \epsilon$$

The partial derivative of Equation 17 with respect to *Firm Divestiture Experience* is:

Equation 18:

$$\frac{\partial Y}{\partial (\text{Firm Div. Exp.})} = \beta_1 + \beta_3 (\text{High Buyer Divestiture Experience})$$

Wherein:

Y = divestiture performance

X = control variable

$\beta$  = constant coefficient

$\epsilon$  = error term

n = control variable summation index

In Equation 18,  $\beta_3$  represents the slope of the relationship between *High Buyer Divestiture Experience* and the partial derivative of performance Y with respect to *Firm Divestiture Experience* ( $\frac{\partial Y}{\partial (\text{Firm Div. Exp.})}$ ).

As for the regression results, Model 8 in Table 19 (*Announcement Date CAR*), in Table 20 (*Completion*), and in Table 21 (*Duration*) each correspond to Equation 17 above. The results of Model 8 in Table 19 for *Announcement Date CAR* show that the coefficient of the interaction term,  $\beta_3$ , is insignificant. For *Completion*, the results of Model 8 of Table 20 show that coefficient of the interaction term is also insignificant. For *Duration*, the results of Model 8 of Table 21 show that coefficient of the interaction term is significant and positive ( $\beta_3=0.016$ ;  $p<0.01$ ), which is opposite the sign hypothesized. In the case of *Duration*, the significance of the interaction term in Equation 14 was further evidenced though a joint test of the coefficients.

Thus, overall, H3 is not supported when divestiture experience is measured as *Announcement Date CAR*, *Completion* or *Duration*.

To close, it should be noted that the above analyses employed the second-stage of the treatment effects models and the Heckman selection models for the banker-based and the buyer-based models, respectively. Throughout these second-stage models, *Lambda* (i.e. the Inverse Mills Ratio) is sometimes significant and sometimes not. The significance of *Lambda* is usually used as an indication that selection bias was an issue in the results. For consistency, the second-stage models are used in the hypothesis testing and in the analyses, irrespective of the significance of *Lambda*. Given the likelihood of selection bias in the results, it is most sensible to be conservative in approach and use the second-stage results. Moreover, the instrumental variables in each of the first stage models (Model 5 in each of the tables) are each significant with sign as expected. Moreover, each pair of instruments (one pair for the banker-based models and one pair for the buyer-based models) passes the overidentification test. Combined, these results help to evidence the efficacy of these instrument variables and validate the use of the second-stage models.

Results of the hypothesis tests are summarized in Table 22.

--- Insert Table 22 here ---

## 4.5 DISCUSSION

This paper investigates experience transfer across firm boundaries. Specifically, it explores whether and how externally-sourced divestiture experience may impact firm divestiture performance outcomes. Two mechanisms for external experience transfer are examined. The first is a direct application of the external experience to the firm's divestiture process. The second is an indirect transfer path, wherein the external experience moderates the relationship between the firm's own divestiture experience and its divestiture performance. Two types of

external divestiture experience sources are considered: the investment bank and the buyer involved in the divestiture.

The results reveal five key insights:

1. Firm experience typically takes a backseat role to external experience.
2. When the moderating effect of external experience is present, it always plays a performance-impairing role.
3. In spite of being paid for their advice, banker external experience does not always serve a performance-enhancing role.
4. High-experience buyers are not motivated buyers.
5. When considering its impact on performance, the source of the external experience matters.

Rationale and implications for each of these insights will be provided in turn in the remainder of this section. Interpretation and discussion will draw upon graphical illustration of the regression model results as well as the tables themselves.<sup>22</sup>

**--- Insert Figure 28, Figure 29, and Figure 30 here ---**

*1. Firm experience typically takes a backseat role to external experience.*

A fundamental question that stretches across all four hypotheses is the issue of whether or not external experience transfers across firm boundaries. The results of this paper suggest that,

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<sup>22</sup> As in Essay 2, it is recognized that consideration of significance of estimated coefficients is an important component of evaluation of hypothesis support, although it is not the only one. As indicated in the tables, this paper uses a minimum cutoff of significance at the 10% level, and the figures used in this discussion depict only significant coefficients from the models. Stated differently, these figures assume the coefficients of the insignificant terms to be at zero. In actuality, these coefficients may be non-zero. As such, the figures that include the full model, irrespective of the significance of coefficient estimates, are included in the Appendix (Figure 31, Figure 32, Figure 33, and Figure 34).

not only is external experience transferable, but, relative to the firm's own experience, it can play an outside role in firm performance.

The data in this research support this insight regardless of the source of the external experience. Consider the results for the banker-based data, in Model 7 of Table 16, Table 17, and Table 18. An examination of the coefficients of *Firm Divestiture Experience* and *Banker Divestiture Experience* reveals that only the coefficient of *Banker Divestiture Experience* is significant in both the *Announcement Date CAR* and the *Completion* cases. For *Duration*, both coefficients are significant, and both are of the same order of magnitude. The buyer-based data in Model 7 of Table 19, Table 20, and Table 21 tell a similar story. In the case of *Announcement Date CAR*, the coefficient for *High Buyer Divestiture Experience* is significant, while that of *Firm Divestiture Experience* is not. For the case of divestiture performance measured as *Completion*, both coefficients are significant, but the magnitude of the coefficient for *High Buyer Divestiture Experience* is larger than the coefficient of *Firm Divestiture Experience* by an astounding factor of ten. However, neither are significant in the model for *Duration*.

That external experience can play such a dominant role relative to internal experience has important implications for firms. These results demonstrate that firms' advice-seeking from intermediaries can serve to replace – in fact, displace – their own experience. Given that this effect is seen not only with experience intentionally sourced from hired bankers, but also when it originates from an “unfriendly” counterparty, suggests that it is important for firms to recognize that exposing themselves to external experience influences has consequential ramifications for their own experience accumulation efforts. While one pessimistic interpretation is that firms' learning from their own experience is not effective or worthwhile, a more optimistic interpretation is that, since external experience can be sourced, firms may not have to learn in that particular arena and can devote their resources elsewhere.

2. *When the moderating effect of external experience is present, it always plays a performance-impairing role.*

For the banker-based data, the moderating effect was significant in the models for two of the three performance measures – *Completion* and *Duration*. As illustrated in Figure 29 and Figure 30, the charts for *Completion* show that as firm experience increases, externally-sourced banker experience becomes increasingly detrimental to firm performance. In fact, this external experience is so harmful that, as one can see in the blue-hued “high-high” experience zone in Figure 30, the likelihood of deal completion actually goes negative (the white line is the zero boundary). The same is true for the case of *Duration* – as firm experience increases and as banker experience increases, deal duration increases at an increasing rate. Thus, the moderating effect is performance-impairing in both cases. Stated differently, this ironically means that the “low-low” experience zones for *Completion* and *Duration* in Figure 30 offer optimal performance conditions.

For the buyer-based data, the moderating effect was significant only in the case of divestiture performance measured as *Duration*. The interaction plot of Figure 32 shows that the effects of high buyer experience and low buyer experience diverge with increasing firm performance, wherein the effects associated with high buyer experience lengthen, and thus impair, duration divestiture performance.

In theorizing about the moderating effect of inter-firm experience transfer, this paper offered a hopeful view – that, regardless of the source of experience, and whatever motivations with which it is laden, beneficial learning would prevail. Unfortunately, the reality suggests otherwise, on two fronts: viability and impact. The lack of a significant moderating effect in both the banker-based data (one case) and the buyer-based data (two cases) suggest that learning transfer through this indirect path presents challenges, irrespective of the source of the external experience. It does not appear to be a viable mechanism that firms should depend upon as part of its learning process arsenal. As for impact, the results paint an even darker picture. When the moderating mechanism is successfully activated, the external experience impairs firm

performance, across all measures for both sources. This has deleterious implications for the firm's capability development processes. In shaping the relationship between the firm's own experience and performance, external experience is shaping a primary, direct avenue for firm learning. Thus, as demonstrated in these results, external experience harms the firm's own learning efforts.

3. *In spite of being paid for their advice, banker external experience does not always serve a performance-enhancing role.*

As shown in the banker-based data in Model 7 of Table 17 (for *Completion*) and Table 18 (for *Duration*), the coefficient of *Banker Divestiture Experience* indicates that increasing banker experience reduces the likelihood of deal completion and lengthens deal duration – each of which are viewed as poor divestiture performance outcomes. The results for *Completion* are especially surprising, given that investment bank compensation schemes are often tied to deal completion. Likewise, Model 8 in these tables show that the moderating effect of *Banker Divestiture Experience* also has these negative consequences for divestiture performance. The only ostensibly positive outcome associated with external experience sourced from bankers is in case of *Announcement Date CAR*, wherein *Banker Divestiture Experience* has a positive relationship with performance.

These results are counterintuitive – they suggest that, when a firm engages an investment bank, it is often not getting what it pays for. However, an alternative interpretation is that the results suggest that, when it comes to divestiture performance measurement, what firms think they want may not be what is best. On the surface, divestiture performance expectations seem clear-cut – get the deal done, making as much money as possible, as quickly as possible. Yet, it could well be that, with the benefit of their extensive divestiture experience, that short duration deals are not necessarily better. More time allows for an opportunity to identify shared sources of value between the selling parent and the acquirer, and thus successfully position and unwind the unit from the parent accordingly. Furthermore, bankers may have learned through their

divestiture experience that completing a bad deal is worse than terminating one. This sheds important light onto the role of deal intermediaries – when duration and completion performance is viewed in this way, external experience sourced from investment banks may be far more valuable than it at first appears.

#### 4. *High-experience buyers are not motivated buyers.*

When divestiture performance is measured as *Completion*, the results of Model 7 in Table 20 show that the absolute magnitude of the coefficient of *High Buyer Experience* ( $\beta_2 = -0.329$ ,  $p < 0.01$ ) is an order of magnitude larger than that of the coefficient for *Firm Divestiture Experience* ( $\beta_1 = -0.0209$ ,  $p < 0.01$ ). Thus, transferred external divestiture experience originating from the buyer serves to severely reduce the likelihood of the divestiture deal's completion. In essence, buyers, at least high-experience buyers, do not appear to be especially motivated to complete the deal.

This result has several implications. For one, it surfaces an important difference between divestiture and acquisition: the cost of deal failure is much higher in divestiture than in acquisition. The risks of gaining the “damaged goods” reputations that befall unsuccessfully divested units are not present for acquirers. Further, while the divestiture is just a financial transaction to the buyer (until the heavy lifting of post-deal integration begins), the selling firm has to bear the costs of dis-integration before the deal completes. Incomplete divestiture deals are not as detrimental to buyers as are they are to selling firms. This, in turn, gives rise to another implication: *caveat venditor*, or “seller beware.” Selling firms should recognize that working with a deal counterparty which has a high level of divestiture experience hurts the likelihood that the deal will complete. As such, when considering potential buyers, selling firms should incorporate this factor into their assessments. This also holds true for investors. Knowing that high-experience buyers reduce the likelihood of divestiture completion could change the way in which they wish to place their stock market bets.



5. *When considering its impact on performance, the source of the external experience matters...but surprisingly less than one might expect.*

The results demonstrate that different types of externally-sourced divestiture experience can influence the firm's divestiture performance differently, but that there are notable consistencies in their impact as well. For example, the direct effect of external divestiture experience raises the cumulative abnormal returns associated with the divestiture announcement when the experience is sourced from a banker, as well as when the experience comes from a high-experience buyer. Likewise, the direct effect of external divestiture experience sourced from a banker or from a high-experience buyer reduces the likelihood that the divestiture transaction will complete. However, while the direct effect of divestiture experience sourced from a banker lengthens the duration of the divestiture transaction, buyer-based divestiture experience has no significant direct effect. The moderating effect reveals two more points of commonality between the two source types: insignificance for *Announcement Date CAR* and a performance-impairing role for *Duration*. However, differences surface again with *Completion*, wherein banker-based external experience has a significant negative moderating effect, but buyer-based external divestiture experience has no significant effect.

It is natural for firms to tap into the external experience sources to which it has access, deliberately or not. However, the results underscore that, in doing so, firms should not expect similar outcomes from different experience sources. The firm-bank relationship investigated in this paper is a client-advisor relationship, while the firm-buyer relationship is a supplier-buyer one. Certainly, many other types of external experience sources are available, from board members to investors. Firms need to recognize that not all experience is cut from the same cloth, and that this has ramifications for inter-firm experience transfer.

This implication raises another question: given that the source of the experience matters, which experience source matters most to divestiture performance? Analyzing a combined regression model that incorporates both sources is one way to address this question. As was

described previously, the banker-based data and the buyer-based data are each subject to distinct sample selection problems. While these issues were successfully addressed separately in this paper, they cannot be addressed simultaneously in this research. This renders any regression results from a combined model to be suspect. However, in the spirit of exploration, a combined model was created. Results are presented in Table 27 (for *Announcement Date CAR*), Table 28 (for *Completion*) and Table 29 (for *Duration*) in the Appendix. Due to convergence issues, OLS is used to estimate the model for *Completion*, rather than logistic regression. Furthermore, the continuous *Buyer Divestiture Experience* variable is used in these regression models. Looking at Model 10 for each of the three tables and comparing the main effects of *Firm Divestiture Experience*, *Banker Divestiture Experience*, and *Buyer Divestiture Experience*, the results show that *Banker Divestiture Experience* is the only main effect that is significant for *Announcement Date CAR* and *Duration*. *Firm Divestiture Experience* is the only main effect that is significant for *Completion*. Taking these results at face value, they are intriguing. They suggest that *Banker Divestiture Experience* can matter more than the firm's own divestiture experience, and that the main effect of *Buyer Divestiture Experience* plays no role in the firm's divestiture performance outcomes. It is a similar theme for the moderating effect. Looking at Model 14 in each of the tables, significant interaction effects are found only in *Completion* and *Duration*, and in both of these cases it is the interaction between *Firm Divestiture Experience* and *Banker Divestiture Experience* that is significant. Thus, these results from the combined model (which again must be interpreted skeptically) reinforce the finding that the source of the external experience matters, and suggests that *Banker Divestiture Experience* matters more than *Buyer Divestiture Experience* (and, at times, more than *Firm Divestiture Experience*).

#### **4.5.1 Limitations & Directions for Future Research**

One limitation of this paper is that only two types of external experience sources are considered. The results of this paper suggest that inter-firm experience transfer is an important,

albeit complex, process, and evaluating additional types of external experience sources could offer additional insights into its mechanisms and impact on firm performance. Furthermore, the contextual characteristics (e.g. industry, geography, deal size) of the external experience offered by the investment banks and the buyers were not considered in this paper. The degree of similarity between the external experience and the contextual characteristics of the focal transaction may play a role in the effectiveness and the fidelity of the experience transfer process. Studying the impact of such similarities and differences offers an interesting opportunity for future study.

Another limitation is that any repeated transactions between a particular seller-banker pair or between a particular seller-buyer pair are not specifically tracked. Unpacking how the influence of external experience may be augmented or attenuated as the two parties engage in multiple interactions could advance our understanding of the conditions under which external experience offers the greatest performance benefits to firms.

While this paper offered insights regarding the role of external divestiture experience sourced from investment banks on firm divestiture performance, these learnings were conditioned upon the firm's hiring of an investment bank for the divestiture transaction. Another line of inquiry could explore the benefits and consequences to divestiture performance associated with the firm's decision of whether or not to hire an investment banker for its divestiture transactions. The advantages (and disadvantages) associated with the hire-versus-no hire decision around investment bankers for firms have been investigated in other types of transactions, including acquisitions and initial public offerings. Insights regarding the merits of hiring an investment banker in divestiture transactions versus not hiring one are sure to be of interest to scholars and managers alike.

## 4.6 CONCLUSION

This paper investigates experience transfer across firm boundaries. Two key questions are addressed: first, whether and how external experience influences firm performance outcomes; and second, how the type of the sourced experience may play a role in these outcomes. To do so, this research focuses on corporate divestiture, and considers the influence of divestiture experience sourced from investment bankers and buyers on firm divestiture performance. Two possible avenues for experience transfer are examined: direct and moderating. In the first, the external divestiture experience is directly applied to the firm's divestiture process. In the second, the external divestiture experience moderates the relationship between the firm's own divestiture experience and its divestiture performance.

I find that the direct and the moderating paths for external learning transfer are both viable, but not consistently and not always beneficially for performance. Indeed, when present, the moderating effect of external experience always plays a performance-impairing role. Moreover, I determine that, relative to the firm's own divestiture experience, transferred external divestiture experience has an outside influence on divestiture performance. Intriguingly, I find that the source type impacts only the activation of particular transfer paths. When a certain transfer path is present for the investment banks and the buyers, the nature of the effect of that external transfer on divestiture performance (i.e. performance-enhancing or performance-impairing) is the same, regardless of the source. Given that the underpinning motivations of bankers and buyers involved in divestiture transactions differ, this consistency in outcome is notable. As such, I find that the performance impact of external experience transfer often runs counter to theoretical predictions and managerial expectations.

Taken together, these findings contribute new insights towards answering the questions of whether and how external experience influences firm outcomes, as well as how these outcomes change with differences in the external experience source. In addition to advancing

understanding of interfirm experience transfer, a topic of pointed interest in both the organizational learning and strategic management literatures, this research contributes to the burgeoning literature on the role and impact of intermediary actors in firm corporate development activities.

## 4.7 TABLES

Table 15: Descriptive Statistics and Correlation Matrix

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1 Announcement Date CAR	0.01	0.12	1																						
2 Completion	0.77	0.42	0.00	1																					
3 Duration	51.10	113.95	0.03***	.	1																				
4 Advisor Flag	0.25	0.43	0.02***	0.16***	0.13***	1																			
5 Buyer Flag	0.28	0.45	0.00	0.08***	0.05***	0.05***	1																		
6 Federal Funds Rate	4.86	2.32	0.00	-0.10***	0.03***	0.01	0.02***	1																	
7 U.S. M&A Volume Change	0.59	2.48	0.00	0.01***	0.00	-0.02***	0.03***	0.06***	1																
8 Near International Hub	0.38	0.48	0.00	0.00	-0.01	0.01***	-0.02***	0.02***	-0.02***	1															
9 Exchange Rate Index	110.93	10.68	0.00	0.01**	-0.02***	0.08***	-0.05***	0.23***	-0.23***	0.00	1														
10 Firm Divestiture Experience	7.03	12.87	-0.03***	-0.01*	0.01**	0.04***	0.01	-0.15***	-0.02***	0.15***	-0.05***	1													
11 Banker Divestiture Experience	146.21	105.70	0.00	-0.03***	0.15***	0.02*	0.09***	-0.02**	0.00	0.00	-0.13***	0.14***	1												
12 High Buyer Divestiture Experience	0.65	0.48	-0.01	-0.02**	0.00	0.07***	.	-0.14***	-0.01	-0.01	-0.09***	0.11***	0.11***	1											
13 Buyer Divestiture Experience	4.75	10.70	-0.01	-0.02***	0.01	0.07***	.	-0.09***	-0.01	0.03***	-0.02**	0.19***	0.14***	0.32***	1										
14 ln(Total Assets)	7.69	2.72	-0.07***	-0.02***	0.06***	0.14***	0.07***	-0.14***	-0.04***	0.07***	0.02***	0.58***	0.28***	0.13***	0.19***	1									
15 Negative Net Income	0.33	0.47	0.05***	-0.01	-0.03***	-0.01**	-0.05***	-0.05***	-0.02***	0.01	-0.01	-0.14***	-0.07***	-0.02*	-0.05***	-0.37***	1								
16 Leverage	0.38	0.27	0.03***	-0.04***	0.04***	0.06***	-0.01	0.03***	-0.06***	-0.02***	0.04***	0.11***	0.05***	0.04***	0.06***	0.20***	0.21***	1							
17 Tobin's q	1.45	45.22	-0.03***	-0.01*	-0.01**	0.00	0.00	0.00	0.00	0.01	0.01	0.00	-0.01	-0.01	-0.01	-0.03***	0.01	-0.02***	1						
18 Return on Equity	-0.19	36.75	-0.01	0.00	0.00	0.00	0.01	0.01***	0.00	0.00	0.00	0.00	0.01	0.00	-0.01	0.01*	-0.01***	0.01**	0.00	1					
19 Herfindahl Index	0.63	0.33	0.02***	-0.02***	-0.01**	-0.09***	0.01***	0.07***	0.06**	-0.03***	-0.13***	-0.24***	-0.06***	-0.08***	-0.08***	-0.39***	0.16***	-0.01*	0.01*	-0.01	1				
20 Unit-Parent Size Ratio	0.25	0.43	0.20***	-0.08***	0.08***	0.08***	0.00	0.09***	-0.01*	0.01	0.05***	-0.19***	-0.08***	0.03**	0.01	-0.38***	0.29***	0.32***	-0.05***	0.01	0.15***	1			
21 Unit-Parent Geographic Relatedness	0.81	0.39	0.02***	0.02***	0.03***	0.03***	0.14***	0.10***	0.02***	-0.05***	0.02***	-0.20***	0.03***	-0.09***	-0.09***	-0.23***	0.06***	0.04***	0.00	0.00	0.10***	0.13***	1		
22 Unit-Parent Industrial Relatedness	0.36	0.48	0.01**	-0.04***	0.04***	-0.04***	0.01	-0.07***	-0.01	-0.06***	-0.04***	-0.14***	-0.04***	-0.03***	-0.05***	-0.13***	0.10***	-0.01***	0.01	-0.01*	0.17***	0.09***	0.02***	1	
23 Divestiture Program	0.53	0.50	-0.03***	0.10***	0.02***	0.14***	0.04***	-0.05***	-0.02***	0.03***	0.00	0.43***	0.15***	0.11***	0.11***	0.54***	-0.13***	0.10***	-0.01*	0.01*	-0.28***	-0.23***	-0.15***	-0.11***	1

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

Table 16: Heckman Model – OLS Regression Results for Announcement Date CAR, Banker Models

Dependent Variable:	(1) Pre-Heckman CAR	(2) Pre-Heckman CAR	(3) Pre-Heckman CAR	(4) Pre-Heckman CAR	(5) Heckman 1st Stage Advisor Flag	(6) Heckman 2nd Stage CAR	(7) Heckman 2nd Stage CAR	(8) Heckman 2nd Stage CAR
Federal Funds Rate					0.0739*** (0.0158)			
U.S. M&A Volume Change					-0.260*** (0.0738)			
Firm Divestiture Experience	0.0002** (0.0001)		0.0001 (0.0001)	0.0002 (0.0001)	-0.0093*** (0.0014)		-0.0015 (0.0012)	-0.0014 (0.0012)
Bank Divestiture Experience		0.000* (0.000)	0.000** (0.000)	0.000** (0.000)		0.000** (0.000)	0.000** (0.000)	0.000** (0.000)
Firm X Bank Divestiture Experience				-0.000 (0.000)				-0.000 (0.000)
ln(Total Assets)	-0.0041*** (0.0006)	-0.0047*** (0.001)	-0.0051*** (0.0011)	-0.0051*** (0.0011)	0.114*** (0.0082)	-0.0036*** (0.0013)	0.0141 (0.0151)	0.0143 (0.0151)
Negative Net Income	0.0059*** (0.0018)	0.0086*** (0.0033)	0.0085*** (0.0032)	0.0085*** (0.0032)	0.153*** (0.0234)	0.0109** (0.0042)	0.0342 (0.0209)	0.0345* (0.0208)
Return on Equity	-0.000 (0.0001)	0.0004*** (0.0001)	0.0004*** (0.0001)	0.0004*** (0.0001)	0.0006 (0.0006)	0.0004*** (0.0001)	0.0005*** (0.0002)	0.0005*** (0.0002)
Herfindahl Index	-0.0036 (0.0023)	-0.010** (0.0044)	-0.010** (0.0043)	-0.010** (0.0043)	-0.0283 (0.0396)	-0.0103** (0.0045)	-0.0148** (0.0059)	-0.0149** (0.0059)
Unit-Parent Geographic Relatedness	0.0022 (0.0014)	0.0047 (0.0031)	0.0048 (0.0031)	0.0049 (0.0031)	0.285*** (0.0244)	0.0086* (0.0047)	0.0519 (0.0373)	0.0528 (0.0372)
Unit-Parent Industrial Relatedness	0.0012 (0.0015)	-0.0012 (0.0029)	-0.0011 (0.003)	-0.001 (0.003)	-0.0263 (0.0215)	-0.0011 (0.003)	-0.0052 (0.0044)	-0.0052 (0.0044)
Divestiture Program	-0.0007 (0.0017)	-0.0041 (0.0031)	-0.0043 (0.0031)	-0.0044 (0.0031)	0.159*** (0.0238)	-0.0026 (0.0036)	0.022 (0.0211)	0.0223 (0.0211)
Lambda						0.0182 (0.0182)	0.224 (0.179)	0.228 (0.178)
Constant	0.0134 (0.0214)	0.0242 (0.023)	0.0266 (0.0235)	0.0261 (0.0235)	-1.540*** (0.356)	0.005 (0.0349)	-0.331 (0.292)	-0.337 (0.291)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	0.018	0.035	0.035	0.035		0.035	0.036	0.036
Number of Observations	29,230	7,762	7,762	7,762	33,605	7,433	7,433	7,433

Robust standard errors clustered by firm in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

Table 17: Heckman Model – Logit Regression Results for Completion, Banker Models

Dependent Variable:	(1) Pre-Heckman Completion	(2) Pre-Heckman Completion	(3) Pre-Heckman Completion	(4) Pre-Heckman Completion	(5) Heckman 1st Stage Advisor Flag	(6) Heckman 2nd Stage Completion	(7) Heckman 2nd Stage Completion	(8) Heckman 2nd Stage Completion
Federal Funds Rate					0.0432** (0.0205)			
U.S. M&A Volume Change					-0.290*** (0.0955)			
Firm Divestiture Experience	-0.011*** (0.004)		-0.0148*** (0.0055)	0.0268* (0.0154)	-0.0155*** (0.0018)		-0.0099 (0.015)	0.031 (0.0208)
Bank Divestiture Experience		-0.0012* (0.0007)	-0.0013* (0.0007)	-0.0002 (0.0008)		-0.0013* (0.0007)	-0.0013* (0.0007)	-0.0002 (0.0008)
Firm X Bank Divestiture Experience				-0.0002*** (0.0001)				-0.0002*** (0.0001)
ln(Total Assets)	-0.0381** (0.0184)	-0.123*** (0.0451)	-0.0782 (0.0492)	-0.0963* (0.0497)	0.249*** (0.0111)	-0.299*** (0.0743)	-0.157 (0.223)	-0.140 (0.223)
Negative Net Income	-0.188*** (0.0643)	0.0034 (0.151)	0.0276 (0.152)	0.0231 (0.151)	0.119*** (0.0309)	-0.0945 (0.156)	-0.0271 (0.180)	-0.0143 (0.179)
Leverage	0.305** (0.127)	0.599* (0.353)	0.586* (0.349)	0.567 (0.348)	-0.531*** (0.0801)	0.966** (0.389)	0.697 (0.532)	0.604 (0.530)
Tobin's q	-0.0034 (0.0035)	0.131 (0.104)	0.129 (0.102)	0.128 (0.103)	0.0042 (0.0026)	0.141 (0.106)	0.144 (0.107)	0.145 (0.109)
Return on Equity	0.0003 (0.0013)	-0.0013 (0.0056)	-0.001 (0.0056)	-0.0013 (0.0056)	0.0001 (0.0012)	-0.0014 (0.0056)	-0.0012 (0.0055)	-0.0014 (0.0055)
Herfindahl Index	-0.0943 (0.103)	-0.303 (0.206)	-0.305 (0.209)	-0.316 (0.210)	-0.0193 (0.0473)	-0.254 (0.210)	-0.267 (0.211)	-0.282 (0.212)
Unit-Parent Size Ratio	-0.404*** (0.0691)	-0.873*** (0.149)	-0.856*** (0.150)	-0.846*** (0.150)	0.868*** (0.0378)	-1.565*** (0.297)	-1.113 (0.725)	-0.982 (0.726)
Unit-Parent Geographic Relatedness	0.369*** (0.0749)	-0.196 (0.194)	-0.214 (0.192)	-0.184 (0.192)	0.250*** (0.0371)	-0.402** (0.204)	-0.269 (0.302)	-0.200 (0.302)
Unit-Parent Industrial Relatedness	-0.193*** (0.0624)	-0.251* (0.151)	-0.268* (0.152)	-0.262* (0.152)	-0.0741** (0.0294)	-0.209 (0.152)	-0.252 (0.161)	-0.256 (0.161)
Divestiture Program	0.791*** (0.0709)	0.511*** (0.144)	0.569*** (0.147)	0.536*** (0.148)	0.129*** (0.0315)	0.501*** (0.152)	0.574*** (0.192)	0.559*** (0.194)
Lambda						-1.376*** (0.508)	-0.523 (1.390)	-0.294 (1.388)
Constant	1.366 (1.145)	4.394*** (0.898)	4.094*** (0.907)	4.126*** (0.921)	-2.299*** (0.294)	7.742*** (1.213)	5.943** (2.983)	5.423* (2.974)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	16,260	5,526	5,526	5,526	15,958	5,379	5,379	5,379

Robust standard errors clustered by firm in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10



Table 18: Heckman Model – Negative Binomial Regression Results for Duration, Banker Models

Dependent Variable:	(1) Pre-Heckman Duration	(2) Pre-Heckman Duration	(3) Pre-Heckman Duration	(4) Pre-Heckman Duration	(5) Heckman 1st Stage Advisor Flag	(6) Heckman 2nd Stage Duration	(7) Heckman 2nd Stage Duration	(8) Heckman 2nd Stage Duration
Federal Funds Rate					0.0432** (0.0205)			
U.S. M&A Volume Change					-0.290** (0.0955)			
Firm Divestiture Experience	-0.004*** (0.0015)		0.0004 (0.0016)	-0.007** (0.0028)	-0.0155*** (0.0018)		0.015*** (0.0051)	0.0079 (0.0056)
Bank Divestiture Experience		0.0011*** (0.0002)	0.0011*** (0.0002)	0.0009*** (0.0002)		0.0011*** (0.0002)	0.0012*** (0.0002)	0.0009*** (0.0002)
Firm X Bank Divestiture Experience				0.000*** (0.000)				0.000*** (0.000)
ln(Total Assets)	0.149*** (0.0126)	0.115*** (0.0128)	0.114*** (0.0139)	0.116*** (0.014)	0.249*** (0.0111)	0.0999*** (0.0197)	-0.120 (0.0772)	-0.126* (0.0767)
Negative Net Income	-0.0313 (0.0424)	-0.0267 (0.0395)	-0.0269 (0.0395)	-0.026 (0.0395)	0.119*** (0.0309)	-0.0385 (0.0409)	-0.141*** (0.0545)	-0.145*** (0.0543)
Leverage	-0.574*** (0.106)	-0.533*** (0.101)	-0.534*** (0.101)	-0.527*** (0.103)	-0.531*** (0.0801)	-0.504*** (0.115)	-0.0689 (0.189)	-0.0438 (0.189)
Tobin's q	0.0292 (0.0251)	0.0203 (0.0208)	0.0201 (0.0205)	0.0216 (0.0228)	0.0042 (0.0026)	0.0201 (0.021)	0.0164 (0.0209)	0.0178 (0.0232)
Return on Equity	-0.0034 (0.0066)	0.0021 (0.0076)	0.0021 (0.0076)	0.0021 (0.0076)	0.0001 (0.0012)	0.002 (0.0076)	0.0017 (0.0076)	0.0017 (0.0076)
Herfindahl Index	-0.138** (0.0598)	-0.120** (0.0579)	-0.120** (0.0579)	-0.123** (0.058)	-0.0193 (0.0473)	-0.128** (0.0588)	-0.105* (0.0592)	-0.108* (0.0593)
Unit-Parent Size Ratio	0.817*** (0.047)	0.599*** (0.048)	0.598*** (0.048)	0.597*** (0.048)	0.868*** (0.0378)	0.547*** (0.0831)	-0.171 (0.253)	-0.202 (0.251)
Unit-Parent Geographic Relatedness	0.188*** (0.0572)	0.371*** (0.0507)	0.372*** (0.0507)	0.362*** (0.051)	0.250*** (0.0371)	0.346*** (0.0559)	0.133 (0.0945)	0.114 (0.0931)
Unit-Parent Industrial Relatedness	0.0192 (0.0379)	0.0988*** (0.0363)	0.0993*** (0.0364)	0.0986*** (0.0365)	-0.0741** (0.0294)	0.106*** (0.0366)	0.168*** (0.0414)	0.170*** (0.0414)
Divestiture Program	-0.111*** (0.039)	-0.0903** (0.0412)	-0.0912** (0.0415)	-0.088** (0.0413)	0.129*** (0.0315)	-0.0933** (0.0428)	-0.210*** (0.0592)	-0.211*** (0.0589)
Lambda						-0.0923 (0.134)	-1.403*** (0.479)	-1.456*** (0.476)
Constant	2.685*** (0.320)	2.839*** (0.372)	2.848*** (0.373)	2.864*** (0.361)	-2.299*** (0.294)	3.122*** (0.442)	5.999*** (1.077)	6.147*** (1.062)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	14,519	5,566	5,566	5,566	15,958	5,419	5,419	5,419

Robust standard errors clustered by firm in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

Table 19: Heckman Model – OLS Regression Results for Announcement Date CAR, Buyer Models

<b>Dependent Variable:</b>	(1) Pre-Heckman CAR	(2) Pre-Heckman CAR	(3) Pre-Heckman CAR	(4) Pre-Heckman CAR	(5) Heckman 1st Stage Buyer Flag	(6) Heckman 2nd Stage CAR	(7) Heckman 2nd Stage CAR	(8) Heckman 2nd Stage CAR
Near International Hub					-0.041** (0.0193)			
Exchange Rate Index					0.007*** (0.0016)			
Firm Divestiture Experience	0.0002** (0.0001)		0.0002* (0.0001)	0.0004** (0.0002)	-0.0021** (0.0008)		-0.000 (0.0002)	0.0001 (0.0002)
High Buyer Divestiture Experience		0.0037* (0.002)	0.0037* (0.002)	0.005* (0.0026)		0.0038* (0.0021)	0.0038* (0.0021)	0.0051* (0.0026)
Firm X High Buyer Divestiture Experience				-0.0002* (0.0001)				-0.0002 (0.0001)
ln(Total Assets)	-0.0041*** (0.0006)	-0.0039*** (0.0009)	-0.0045*** (0.0011)	-0.0046*** (0.0011)	0.0662*** (0.0055)	0.0018 (0.0019)	0.0023 (0.0035)	0.0022 (0.0035)
Negative Net Income	0.0059*** (0.0018)	0.010*** (0.003)	0.0096*** (0.0029)	0.0096*** (0.0029)	-0.0707*** (0.0192)	0.0027 (0.0035)	0.0023 (0.0043)	0.0023 (0.0043)
Return on Equity	-0.000 (0.0001)	0.0001 (0.0001)	0.0001 (0.0001)	0.0001 (0.0001)	0.0021*** (0.0007)	0.0003** (0.0001)	0.0003** (0.0001)	0.0003** (0.0001)
Herfindahl Index	-0.0036 (0.0023)	-0.0001 (0.0037)	-0.0001 (0.0036)	-0.000 (0.0037)	0.0436 (0.0305)	0.0043 (0.0041)	0.0046 (0.0045)	0.0046 (0.0045)
Unit-Parent Geographic Relatedness	0.0022 (0.0014)	0.0071*** (0.0021)	0.0071*** (0.0021)	0.0071*** (0.0021)	0.583*** (0.026)	0.0646*** (0.0221)	0.0689** (0.032)	0.0683** (0.0319)
Unit-Parent Industrial Relatedness	0.0012 (0.0015)	-0.001 (0.0027)	-0.0008 (0.0027)	-0.0008 (0.0027)	0.0701*** (0.0188)	0.0059 (0.004)	0.0064 (0.0047)	0.0063 (0.0046)
Divestiture Program	-0.0007 (0.0017)	-0.0027 (0.0027)	-0.0033 (0.0026)	-0.0035 (0.0026)	-0.0202 (0.0203)	-0.0053** (0.0026)	-0.0054* (0.0028)	-0.0055** (0.0028)
Lambda						0.132*** (0.0506)	0.142* (0.074)	0.140* (0.0738)
Constant	0.0134 (0.0214)	0.0433* (0.0227)	0.0487** (0.0224)	0.0482** (0.0223)	-2.845*** (0.303)	-0.232** (0.107)	-0.254 (0.158)	-0.251 (0.157)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	0.018	0.035	0.035	0.035		0.036	0.036	0.036
Number of Observations	29,230	8,655	8,655	8,655	34,633	8,655	8,655	8,655

Robust standard errors clustered by firm in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

Table 20: Heckman Model – Logit Regression Results for Completion, Buyer Models

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<b>Dependent Variable:</b>	<b>Pre-Heckman Completion</b>	<b>Pre-Heckman Completion</b>	<b>Pre-Heckman Completion</b>	<b>Pre-Heckman Completion</b>	<b>Heckman 1st Stage Buyer Flag</b>	<b>Heckman 2nd Stage Completion</b>	<b>Heckman 2nd Stage Completion</b>	<b>Heckman 2nd Stage Completion</b>
Near International Hub					-0.0661** (0.0257)			
Exchange Rate Index					0.0064*** (0.0023)			
Firm Divestiture Experience	-0.011*** (0.004)		-0.019*** (0.0059)	-0.0216** (0.0098)	-0.003*** (0.001)		-0.0229*** (0.0076)	-0.0258** (0.011)
High Buyer Divestiture Experience		-0.326*** (0.103)	-0.330*** (0.103)	-0.346*** (0.106)		-0.328*** (0.103)	-0.329*** (0.103)	-0.347*** (0.106)
Firm X High Buyer Divestiture Experience				0.0032 (0.0073)				0.0035 (0.0073)
ln(Total Assets)	-0.0381** (0.0184)	-0.0326 (0.0311)	0.0136 (0.034)	0.0141 (0.034)	0.109*** (0.0082)	-0.183* (0.0979)	0.141 (0.141)	0.143 (0.141)
Negative Net Income	-0.188*** (0.0643)	-0.113 (0.108)	-0.0882 (0.109)	-0.0876 (0.110)	-0.0188 (0.0279)	-0.0735 (0.111)	-0.114 (0.113)	-0.113 (0.113)
Leverage	0.305** (0.127)	-0.080 (0.246)	-0.136 (0.234)	-0.138 (0.234)	-0.470*** (0.0585)	0.579 (0.510)	-0.670 (0.626)	-0.680 (0.627)
Tobin's q	-0.0034 (0.0035)	0.0096 (0.0213)	0.0122 (0.0242)	0.0121 (0.024)	0.0059** (0.0028)	0.0028 (0.0221)	0.018 (0.0255)	0.018 (0.0253)
Return on Equity	0.0003 (0.0013)	0.0013 (0.0014)	0.0014 (0.0013)	0.0014 (0.0013)	0.0026** (0.0011)	-0.0018 (0.0024)	0.0039 (0.003)	0.004 (0.003)
Herfindahl Index	-0.0943 (0.103)	-0.399** (0.177)	-0.408** (0.181)	-0.410** (0.182)	0.0371 (0.0417)	-0.460** (0.184)	-0.363* (0.191)	-0.364* (0.191)
Unit-Parent Size Ratio	-0.404*** (0.0691)	-0.0612 (0.127)	-0.011 (0.129)	-0.010 (0.129)	0.255*** (0.0321)	-0.414 (0.263)	0.277 (0.342)	0.282 (0.342)
Unit-Parent Geographic Relatedness	0.369*** (0.0749)	0.471*** (0.170)	0.473*** (0.170)	0.475*** (0.170)	0.737*** (0.0418)	-0.666 (0.749)	1.369 (1.000)	1.383 (1.001)
Unit-Parent Industrial Relatedness	-0.193*** (0.0624)	-0.264** (0.111)	-0.281** (0.111)	-0.281** (0.111)	0.0709*** (0.0261)	-0.377*** (0.128)	-0.196 (0.142)	-0.194 (0.143)
Divestiture Program	0.791*** (0.0709)	0.676*** (0.114)	0.769*** (0.119)	0.772*** (0.119)	-0.036 (0.0286)	0.756*** (0.121)	0.725*** (0.127)	0.727*** (0.127)
Lambda						-2.105 (1.334)	1.662 (1.789)	1.686 (1.790)
Constant	1.366 (1.145)	-0.399 (1.218)	-0.854 (1.206)	-0.847 (1.205)	-2.993*** (0.510)	4.313 (3.207)	-4.657 (4.312)	-4.704 (4.312)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	16,260	5,556	5,556	5,556	16,305	5,556	5,556	5,556

Robust standard errors clustered by firm in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

Table 21: Heckman Model – Negative Binomial Regression Results for Duration, Buyer Models

Dependent Variable:	(1) Pre-Heckman Duration	(2) Pre-Heckman Duration	(3) Pre-Heckman Duration	(4) Pre-Heckman Duration	(5) Heckman 1st Stage Buyer Flag	(6) Heckman 2nd Stage Duration	(7) Heckman 2nd Stage Duration	(8) Heckman 2nd Stage Duration
Near International Hub					-0.0661** (0.0257)			
Exchange Rate Index					0.0064*** (0.0023)			
Firm Divestiture Experience	-0.004*** (0.0015)		-0.0022 (0.0021)	-0.0153*** (0.003)	-0.003*** (0.001)		0.0005 (0.003)	-0.0127*** (0.0038)
High Buyer Divestiture Experience		0.0495 (0.0455)	0.0493 (0.0455)	-0.0389 (0.0514)		0.0468 (0.0453)	0.0467 (0.0453)	-0.0404 (0.0512)
Firm X High Buyer Divestiture Experience				0.0162*** (0.0034)				0.016*** (0.0034)
ln(Total Assets)	0.149*** (0.0126)	0.112*** (0.0155)	0.118*** (0.0175)	0.121*** (0.0172)	0.109*** (0.0082)	0.0396 (0.0441)	0.0326 (0.0689)	0.043 (0.068)
Negative Net Income	-0.0313 (0.0424)	-0.113** (0.0525)	-0.112** (0.0526)	-0.112** (0.0521)	-0.0188 (0.0279)	-0.0976* (0.054)	-0.0966* (0.0544)	-0.0976* (0.0539)
Leverage	-0.574*** (0.106)	-0.372*** (0.124)	-0.367*** (0.129)	-0.383*** (0.123)	-0.470*** (0.0585)	-0.0333 (0.254)	-0.0076 (0.312)	-0.054 (0.309)
Tobin's q	0.0292 (0.0251)	-0.0016 (0.0332)	-0.0001 (0.0392)	-0.0019 (0.0308)	0.0059** (0.0028)	-0.0048 (0.0346)	-0.0053 (0.0342)	-0.0064 (0.0265)
Return on Equity	-0.0034 (0.0066)	-0.0079*** (0.0027)	-0.0079*** (0.0027)	-0.0078*** (0.0027)	0.0026** (0.0011)	-0.0094*** (0.0029)	-0.0095*** (0.003)	-0.0092*** (0.0029)
Herfindahl Index	-0.138** (0.0598)	0.0643 (0.071)	0.0654 (0.0709)	0.0618 (0.0706)	0.0371 (0.0417)	0.0392 (0.072)	0.037 (0.0747)	0.0358 (0.074)
Unit-Parent Size Ratio	0.817*** (0.047)	0.764*** (0.0616)	0.769*** (0.0622)	0.779*** (0.0619)	0.255*** (0.0321)	0.589*** (0.122)	0.574*** (0.166)	0.601*** (0.163)
Unit-Parent Geographic Relatedness	0.188*** (0.0572)	0.0049 (0.122)	0.0047 (0.124)	0.0144 (0.123)	0.737*** (0.0418)	-0.553 (0.345)	-0.597 (0.485)	-0.535 (0.481)
Unit-Parent Industrial Relatedness	0.0192 (0.0379)	0.0372 (0.047)	0.0347 (0.0479)	0.0314 (0.0473)	0.0709*** (0.0261)	-0.0176 (0.0623)	-0.0213 (0.0678)	-0.0199 (0.0676)
Divestiture Program	-0.111*** (0.039)	0.0171 (0.0533)	0.024 (0.0531)	0.0389 (0.0529)	-0.036 (0.0286)	0.0508 (0.056)	0.052 (0.0574)	0.0642 (0.0572)
Lambda						-1.039* (0.630)	-1.121 (0.885)	-1.025 (0.876)
Constant	2.685*** (0.320)	3.240*** (0.253)	3.177*** (0.282)	3.181*** (0.270)	-2.993*** (0.510)	5.492*** (1.333)	5.684*** (1.979)	5.472*** (1.952)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	14,519	5,035	5,035	5,035	16,305	5,035	5,035	5,035

Robust standard errors clustered by firm in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

Table 22: Summary of Results

		Hypothesized Results	Announcement Date CAR	Completion
Banker Divestiture Experience	Hypothesis 1 (Model 7)	$\beta_2 > 0$	✓	×
	Hypothesis 2 (Model 8)	$\beta_3 > 0$	Not Sig.	×
High Buyer Divestiture Experience	Hypothesis 3 (Model 7)	$\beta_2 < 0$	×	✓
	Hypothesis 4 (Model 8)	$\beta_3 > 0$	Not Sig.	Not Sig.

		Hypothesized Results	Duration
Banker Divestiture Experience	Hypothesis 1 (Model 7)	$\beta_2 < 0$	×
	Hypothesis 2 (Model 8)	$\beta_3 < 0$	×
High Buyer Divestiture Experience	Hypothesis 3 (Model 7)	$\beta_2 > 0$	Not Sig.
	Hypothesis 4 (Model 8)	$\beta_3 < 0$	×

✓ =  $\beta$  is significant and has sign as hypothesized  
 × =  $\beta$  is significant but has sign opposite as hypothesized  
 Not Sig. =  $\beta$  is not significant at the ten percent level

## 4.8 FIGURES

Figure 25: Model Schematic of Banker-Based Hypotheses

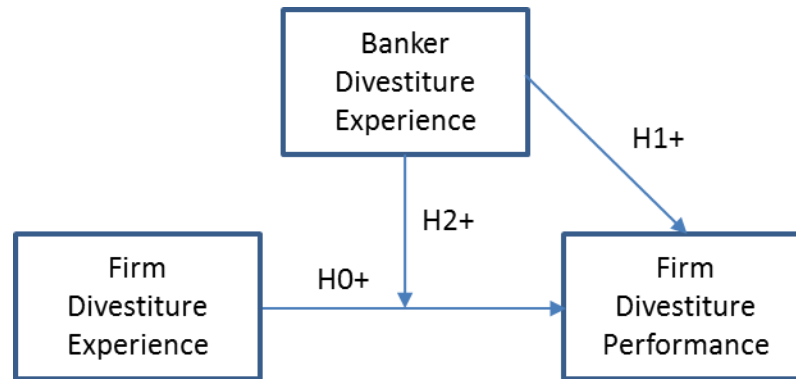


Figure 26: Model Schematic of Buyer-Based Hypotheses

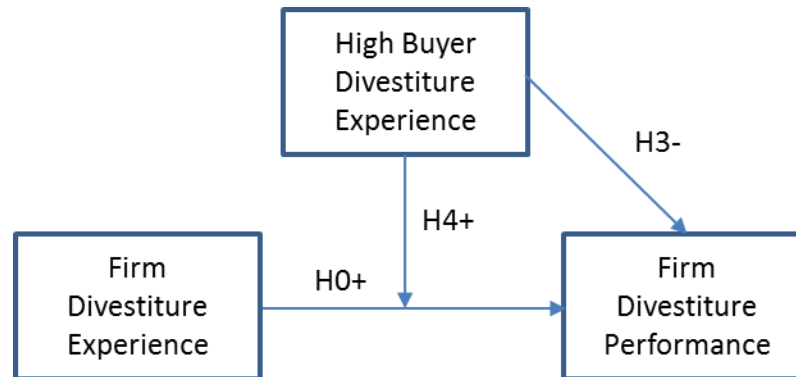


Figure 27: Partial Derivative of Divestiture Performance with Respect to Firm Divestiture Experience vs. Bank Divestiture Experience. Includes only significant terms.

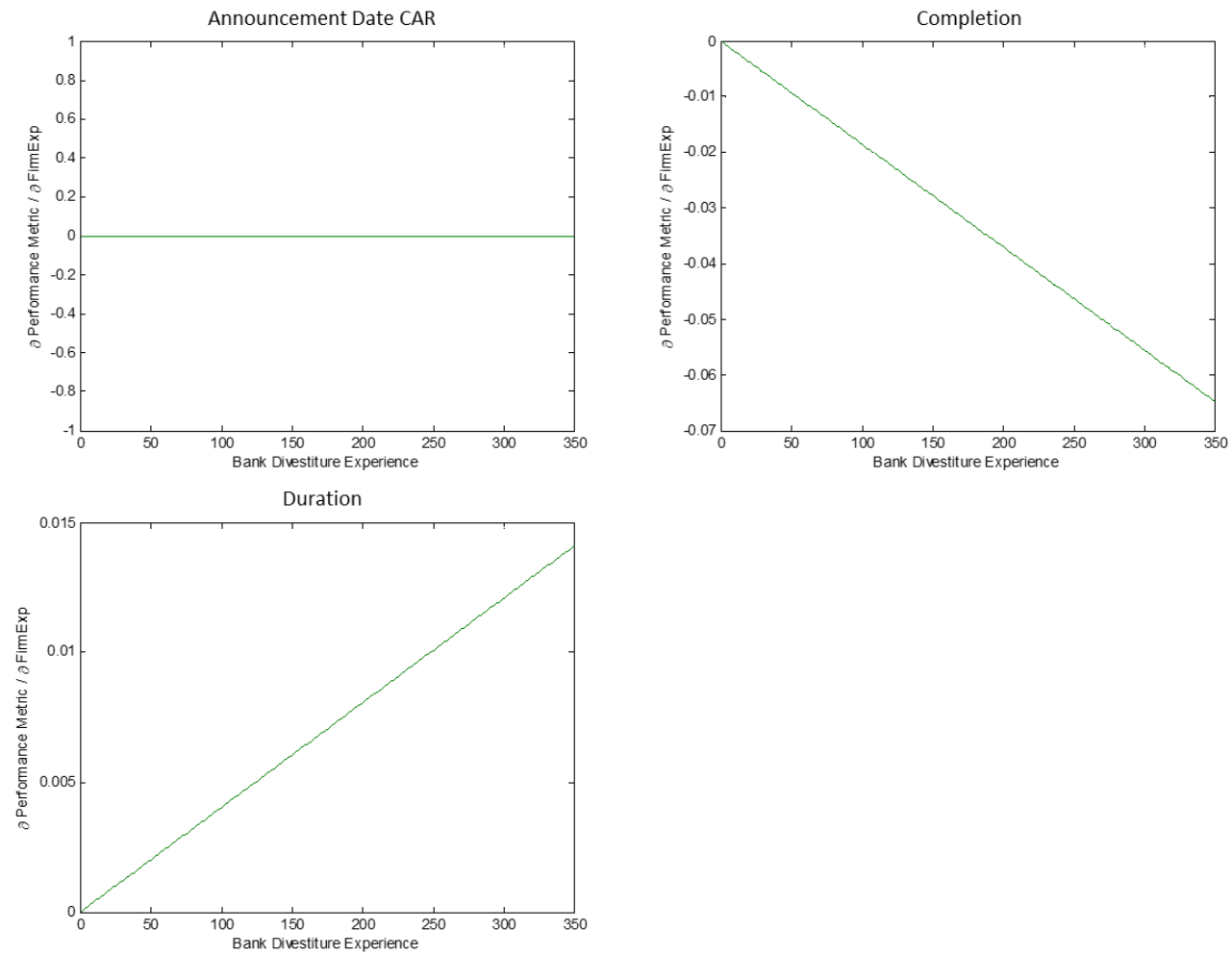


Figure 28: Divestiture Performance vs. Firm Divestiture Experience for Different Levels of Banker Divestiture Experience. Includes only significant terms.

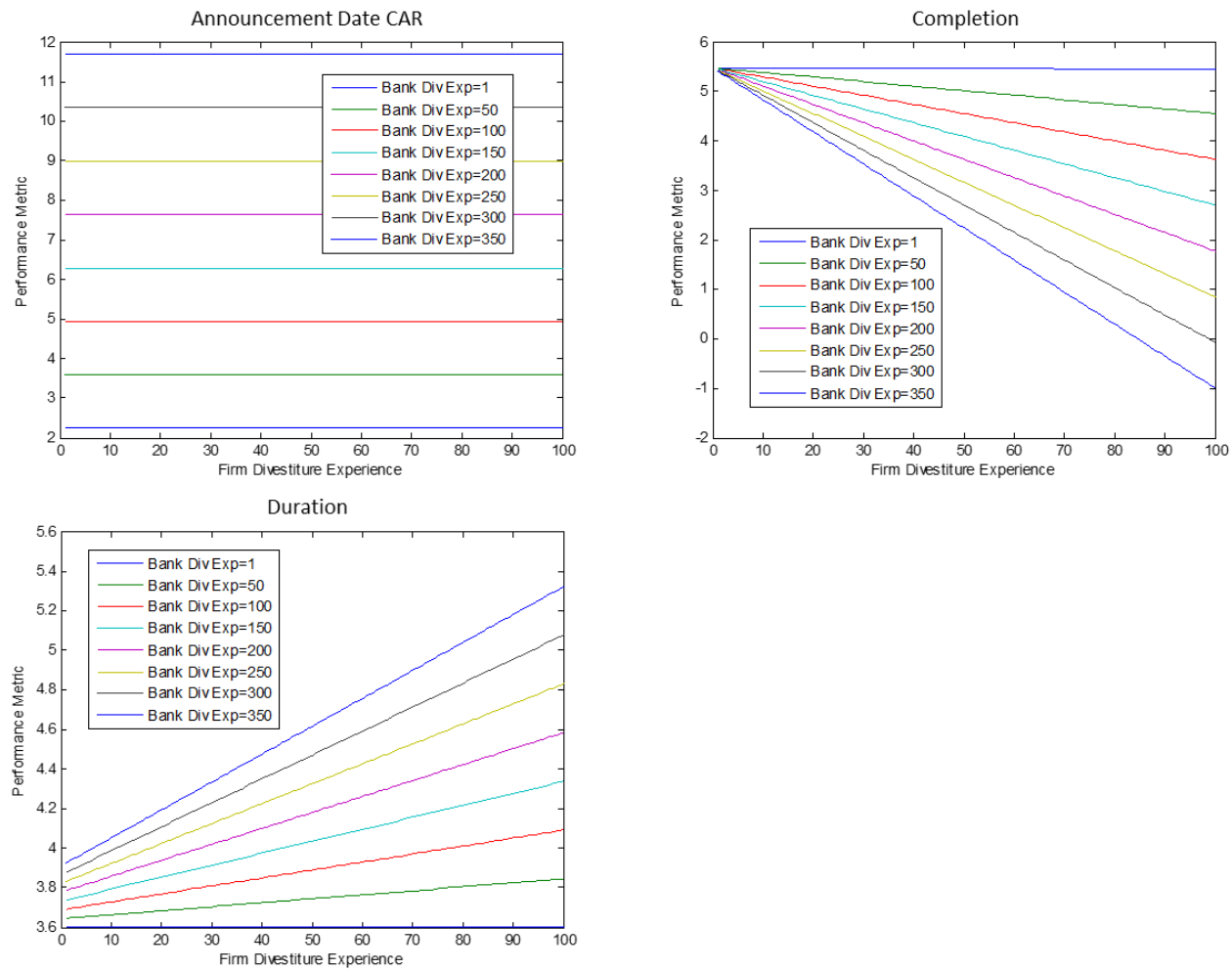




Figure 29: Contour Plot for Hypothesis 2 Discussion (Banker Models). Includes only significant terms.

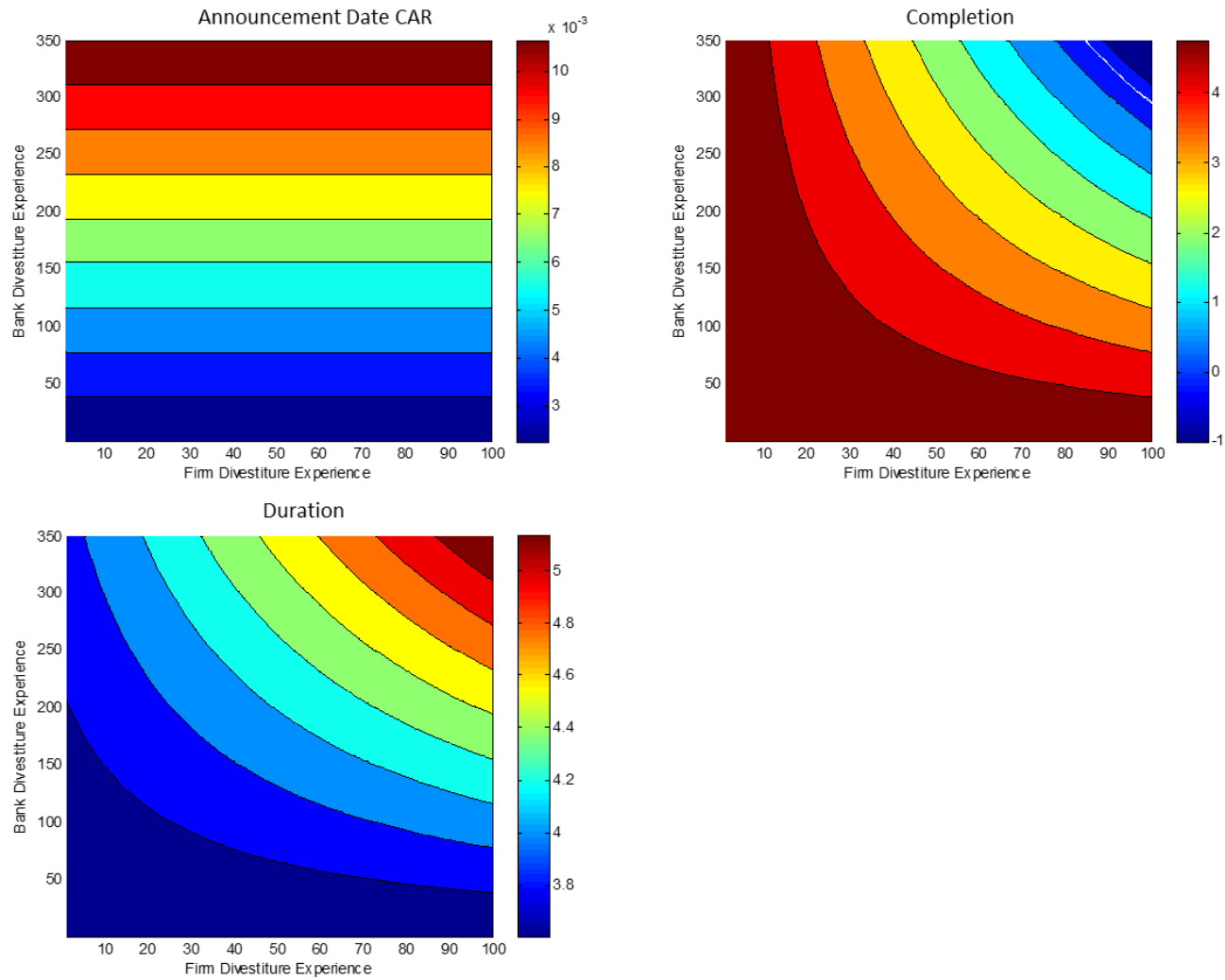
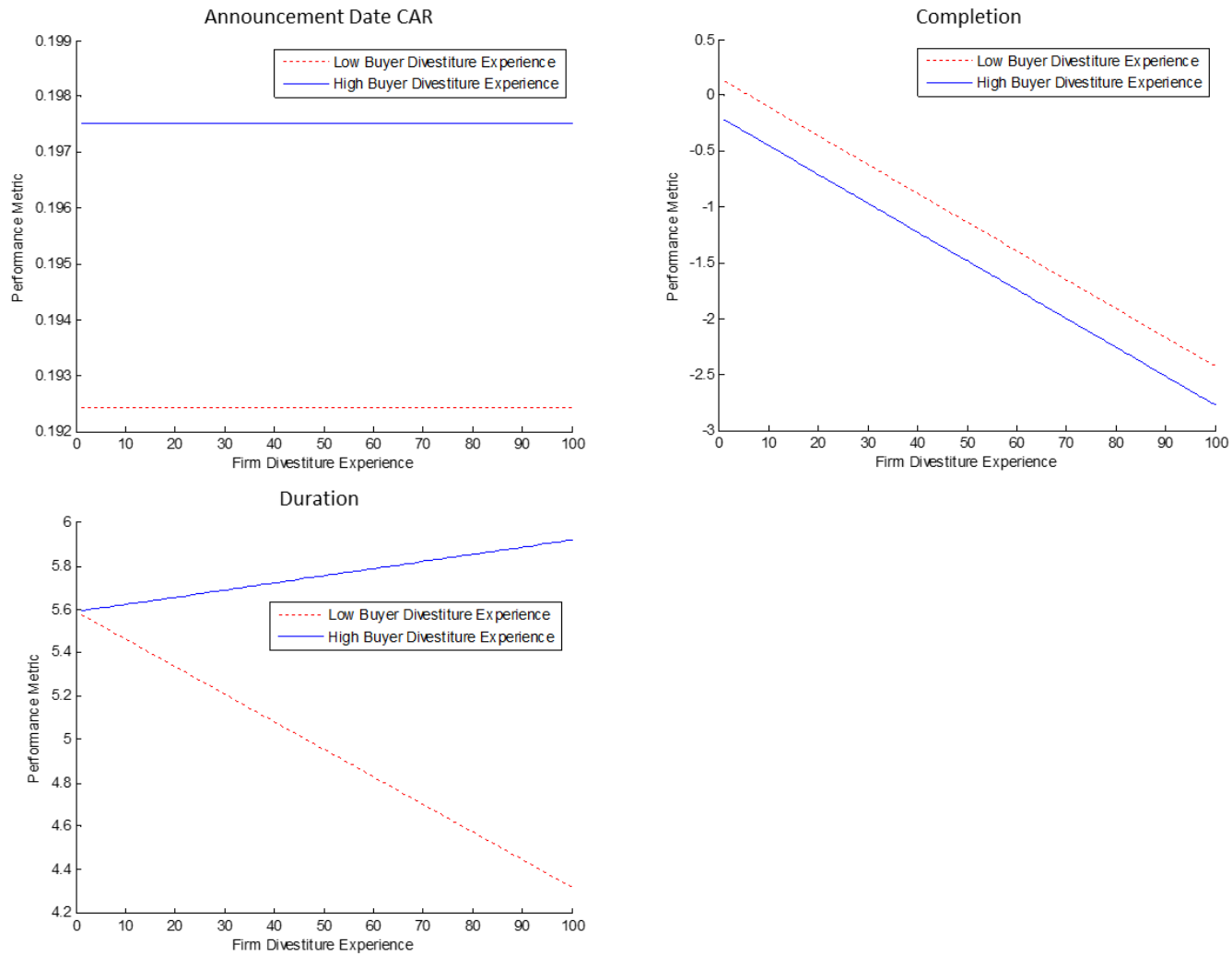


Figure 30: Divestiture Performance vs. Firm Divestiture Experience for High/Low Buyer Divestiture Experience. Includes only significant terms.



## 4.9 APPENDIX

Table 23: Examples of Regression Results Using Full Sample versus CEM Sample

Dependent Variable:	(1)	(2)	(3)	(4)	(5)	(6)
	CAR (OLS)		Completion (Logit)		Duration (Negative Binomial)	
	Full Sample	CEM Sample	Full Sample	CEM Sample	Full Sample	CEM Sample
Firm Divestiture Experience	0.0002** (0.0001)	0.0001 (0.0002)	-0.011*** (0.004)	-0.0154*** (0.0042)	-0.004*** (0.0015)	-0.0045* (0.0025)
ln(Total Assets)	-0.0041*** (0.0006)	-0.0044*** (0.001)	-0.0381** (0.0184)	-0.0594* (0.0333)	0.149*** (0.0126)	0.179*** (0.0208)
Negative Net Income	0.0059*** (0.0018)	0.0052 (0.0043)	-0.188*** (0.0643)	-0.244* (0.125)	-0.0313 (0.0424)	0.023 (0.0716)
Leverage			0.305** (0.127)	-0.0159 (0.253)	-0.574*** (0.106)	-0.715*** (0.159)
Tobin's q			-0.0034 (0.0035)	-0.028 (0.0178)	0.0292 (0.0251)	0.036 (0.0313)
Return on Equity	-0.000 (0.0001)	0.000 (0.0003)	0.0003 (0.0013)	-0.0011 (0.0044)	-0.0034 (0.0066)	0.006 (0.0158)
Herfindahl Index	-0.0036 (0.0023)	-0.0083** (0.0041)	-0.0943 (0.103)	-0.202 (0.173)	-0.138** (0.0598)	0.0487 (0.0872)
Unit-Parent Size Ratio			-0.404*** (0.0691)	-0.331** (0.137)	0.817*** (0.047)	1.043*** (0.0851)
Unit-Parent Geographic Relatedness	0.0022 (0.0014)	0.0002 (0.0024)	0.369*** (0.0749)	0.424*** (0.135)	0.188*** (0.0572)	0.210** (0.0883)
Unit-Parent Industrial Relatedness	0.0012 (0.0015)	0.0013 (0.0023)	-0.193*** (0.0624)	-0.227** (0.110)	0.0192 (0.0379)	-0.143** (0.0567)
Divestiture Program	-0.0007 (0.0017)	0.0005 (0.0027)	0.791*** (0.0709)	0.826*** (0.120)	-0.111*** (0.039)	-0.101* (0.0594)
Constant	0.0176 (0.0215)	-0.0035 (0.0109)	2.224* (1.146)	3.025*** (0.643)	2.438*** (0.321)	-19.230 (78.310)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	29,230	5,561	16,260	5,250	14,519	4,715

Robust standard errors clustered by firm in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

Table 24: Heckman Model - OLS Regression Results for Announcement Date CAR, Continuous Variable Version of Buyer Models

<b>Dependent Variable:</b>	(1) Pre-Heckman CAR	(2) Pre-Heckman CAR	(3) Pre-Heckman CAR	(4) Pre-Heckman CAR	(5) Heckman 1st Stage Buyer Flag	(6) Heckman 2nd Stage CAR	(7) Heckman 2nd Stage CAR	(8) Heckman 2nd Stage CAR
Near International Hub					-0.041** (0.0193)			
Exchange Rate Index					0.007*** (0.0016)			
Firm Divestiture Experience	0.0002** (0.0001)		0.0002 (0.0001)	0.0002* (0.0001)	-0.0021** (0.0008)		-0.000 (0.0002)	-0.000 (0.0002)
Buyer Divestiture Experience		0.0001 (0.0001)	0.0001 (0.0001)	0.0001 (0.0002)		0.0001 (0.0001)	0.0001 (0.0001)	0.0001 (0.0001)
Firm X Buyer Divestiture Experience				-0.000 (0.000)				-0.000 (0.000)
ln(Total Assets)	-0.0041*** (0.0006)	-0.004*** (0.0009)	-0.0045*** (0.0011)	-0.0046*** (0.0011)	0.0662*** (0.0055)	0.0016 (0.0019)	0.0023 (0.0035)	0.0022 (0.0035)
Negative Net Income	0.0059*** (0.0018)	0.0099*** (0.003)	0.0096*** (0.0029)	0.0096*** (0.0029)	-0.0707*** (0.0192)	0.0029 (0.0035)	0.0023 (0.0043)	0.0023 (0.0043)
Return on Equity	-0.000 (0.0001)	0.0001 (0.0001)	0.0001 (0.0001)	0.0001 (0.0001)	0.0021*** (0.0007)	0.0003** (0.0001)	0.0003** (0.0001)	0.0003** (0.0001)
Herfindahl Index	-0.0036 (0.0023)	-0.0002 (0.0036)	-0.0002 (0.0036)	-0.0002 (0.0036)	0.0436 (0.0305)	0.004 (0.004)	0.0044 (0.0045)	0.0045 (0.0045)
Unit-Parent Geographic Relatedness	0.0022 (0.0014)	0.007*** (0.0021)	0.007*** (0.0021)	0.0069*** (0.0021)	0.583*** (0.026)	0.0632*** (0.0222)	0.0684** (0.0319)	0.0684** (0.0319)
Unit-Parent Industrial Relatedness	0.0012 (0.0015)	-0.001 (0.0027)	-0.0007 (0.0027)	-0.0008 (0.0027)	0.0701*** (0.0188)	0.0058 (0.004)	0.0064 (0.0047)	0.0064 (0.0047)
Divestiture Program	-0.0007 (0.0017)	-0.0025 (0.0027)	-0.0031 (0.0026)	-0.0032 (0.0026)	-0.0202 (0.0203)	-0.0051* (0.0026)	-0.0052* (0.0027)	-0.0053* (0.0027)
Lambda						0.129** (0.051)	0.141* (0.0738)	0.141* (0.0738)
Constant	0.0134 (0.0214)	0.046** (0.0226)	0.0511** (0.0224)	0.0515** (0.0224)	-2.845*** (0.303)	-0.223** (0.107)	-0.249 (0.157)	-0.249 (0.157)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	0.018	0.034	0.035	0.035		0.036	0.036	0.036
Number of Observations	29,230	8,655	8,655	8,655	34,633	8,655	8,655	8,655

Robust standard errors clustered by firm in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

Table 25: Heckman Model - Logit Regression Results for Completion, Continuous Variable Version of Buyer Models

<b>Dependent Variable:</b>	(1) Pre-Heckman Completion	(2) Pre-Heckman Completion	(3) Pre-Heckman Completion	(4) Pre-Heckman Completion	(5) Heckman 1st Stage Buyer Flag	(6) Heckman 2nd Stage Completion	(7) Heckman 2nd Stage Completion	(8) Heckman 2nd Stage Completion
Near International Hub					-0.0661** (0.0257)			
Exchange Rate Index					0.0064*** (0.0023)			
Firm Divestiture Experience	-0.011*** (0.004)		-0.0187*** (0.0058)	-0.0132* (0.0068)	-0.003*** (0.001)		-0.0227*** (0.0074)	-0.0169** (0.0083)
Buyer Divestiture Experience		-0.0075 (0.0051)	-0.0072 (0.0051)	0.0005 (0.0052)		-0.0074 (0.0052)	-0.0072 (0.0051)	0.0005 (0.0052)
Firm X Buyer Divestiture Experience				-0.0007*** (0.0003)				-0.0007*** (0.0003)
ln(Total Assets)	-0.0381** (0.0184)	-0.0337 (0.0307)	0.0118 (0.0337)	0.0097 (0.0336)	0.109*** (0.0082)	-0.179* (0.0979)	0.141 (0.141)	0.126 (0.140)
Negative Net Income	-0.188*** (0.0643)	-0.120 (0.108)	-0.0962 (0.109)	-0.101 (0.110)	-0.0188 (0.0279)	-0.0823 (0.111)	-0.122 (0.113)	-0.125 (0.113)
Leverage	0.305** (0.127)	-0.0888 (0.247)	-0.144 (0.235)	-0.135 (0.237)	-0.470*** (0.0585)	0.551 (0.514)	-0.685 (0.625)	-0.624 (0.625)
Tobin's q	-0.0034 (0.0035)	0.0123 (0.028)	0.0153 (0.0286)	0.0162 (0.029)	0.0059** (0.0028)	0.0058 (0.0282)	0.0212 (0.0297)	0.0215 (0.0301)
Return on Equity	0.0003 (0.0013)	0.0012 (0.0014)	0.0013 (0.0013)	0.0013 (0.0013)	0.0026** (0.0011)	-0.0019 (0.0024)	0.0038 (0.003)	0.0036 (0.0029)
Herfindahl Index	-0.0943 (0.103)	-0.386** (0.177)	-0.396** (0.182)	-0.393** (0.182)	0.0371 (0.0417)	-0.445** (0.185)	-0.351* (0.191)	-0.352* (0.191)
Unit-Parent Size Ratio	-0.404*** (0.0691)	-0.0808 (0.127)	-0.0327 (0.129)	-0.0388 (0.129)	0.255*** (0.0321)	-0.424 (0.262)	0.260 (0.343)	0.225 (0.341)
Unit-Parent Geographic Relatedness	0.369*** (0.0749)	0.488*** (0.170)	0.490*** (0.170)	0.469*** (0.171)	0.737*** (0.0418)	-0.616 (0.755)	1.397 (0.998)	1.288 (0.990)
Unit-Parent Industrial Relatedness	-0.193*** (0.0624)	-0.262** (0.111)	-0.280** (0.111)	-0.284** (0.111)	0.0709*** (0.0261)	-0.372*** (0.128)	-0.193 (0.142)	-0.206 (0.142)
Divestiture Program	0.791*** (0.0709)	0.659*** (0.114)	0.749*** (0.119)	0.732*** (0.120)	-0.036 (0.0286)	0.736*** (0.121)	0.705*** (0.126)	0.692*** (0.127)
Lambda						-2.045 (1.340)	1.685 (1.787)	1.520 (1.774)
Constant	1.366 (1.145)	-0.613 (1.222)	-1.062 (1.211)	-1.019 (1.213)	-2.993*** (0.510)	3.963 (3.221)	-4.915 (4.306)	-4.496 (4.273)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	16,260	5,556	5,556	5,556	16,305	5,556	5,556	5,556

Robust standard errors clustered by firm in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

Table 26: Heckman Model – Negative Binomial Regression Results for Duration, Continuous Variable Version of Buyer Models

<b>Dependent Variable:</b>	(1) Pre-Heckman Duration	(2) Pre-Heckman Duration	(3) Pre-Heckman Duration	(4) Pre-Heckman Duration	(5) Heckman 1st Stage Buyer Flag	(6) Heckman 2nd Stage Duration	(7) Heckman 2nd Stage Duration	(8) Heckman 2nd Stage Duration
Near International Hub					-0.0661** (0.0257)			
Exchange Rate Index					0.0064*** (0.0023)			
Firm Divestiture Experience	-0.004*** (0.0015)		-0.0023 (0.0021)	-0.0038 (0.0025)	-0.003*** (0.001)		0.0003 (0.0029)	-0.0012 (0.0033)
Buyer Divestiture Experience		0.004* (0.0022)	0.0041* (0.0022)	0.0016 (0.003)		0.004* (0.0022)	0.004* (0.0022)	0.0014 (0.003)
Firm X Buyer Divestiture Experience				0.0002 (0.0003)				0.0002 (0.0003)
ln(Total Assets)	0.149*** (0.0126)	0.112*** (0.0156)	0.118*** (0.0175)	0.118*** (0.0174)	0.109*** (0.0082)	0.0383 (0.044)	0.0342 (0.0683)	0.0361 (0.068)
Negative Net Income	-0.0313 (0.0424)	-0.111** (0.0524)	-0.110** (0.0525)	-0.110** (0.0525)	-0.0188 (0.0279)	-0.0952* (0.054)	-0.0946* (0.0544)	-0.0951* (0.0543)
Leverage	-0.574*** (0.106)	-0.375*** (0.120)	-0.370*** (0.124)	-0.376*** (0.120)	-0.470*** (0.0585)	-0.0339 (0.251)	-0.0189 (0.311)	-0.0285 (0.310)
Tobin's q	0.0292 (0.0251)	-0.0033 (0.0252)	-0.002 (0.0308)	-0.0036 (0.0233)	0.0059** (0.0028)	-0.0065 (0.0266)	-0.0068 (0.0264)	-0.008 (0.0204)
Return on Equity	-0.0034 (0.0066)	-0.0079*** (0.0027)	-0.0079*** (0.0027)	-0.0078*** (0.0027)	0.0026** (0.0011)	-0.0094*** (0.0029)	-0.0094*** (0.003)	-0.0094*** (0.003)
Herfindahl Index	-0.138** (0.0598)	0.064 (0.0711)	0.0652 (0.071)	0.0672 (0.0708)	0.0371 (0.0417)	0.0386 (0.072)	0.0373 (0.0746)	0.0395 (0.0743)
Unit-Parent Size Ratio	0.817*** (0.047)	0.764*** (0.062)	0.770*** (0.0626)	0.772*** (0.0622)	0.255*** (0.0321)	0.588*** (0.121)	0.579*** (0.164)	0.585*** (0.163)
Unit-Parent Geographic Relatedness	0.188*** (0.0572)	0.0084 (0.122)	0.0082 (0.123)	0.0153 (0.121)	0.737*** (0.0418)	-0.553 (0.347)	-0.579 (0.483)	-0.564 (0.480)
Unit-Parent Industrial Relatedness	0.0192 (0.0379)	0.0361 (0.0468)	0.0334 (0.0475)	0.0329 (0.0472)	0.0709*** (0.0261)	-0.0191 (0.0622)	-0.0213 (0.068)	-0.0211 (0.068)
Divestiture Program	-0.111*** (0.039)	0.0173 (0.053)	0.0245 (0.0529)	0.0275 (0.053)	-0.036 (0.0286)	0.0511 (0.0558)	0.0518 (0.0572)	0.0543 (0.0573)
Lambda						-1.047* (0.631)	-1.095 (0.881)	-1.080 (0.878)
Constant	2.685*** (0.320)	3.273*** (0.247)	3.207*** (0.272)	3.190*** (0.264)	-2.993*** (0.510)	5.541*** (1.337)	5.652*** (1.963)	5.602*** (1.952)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	14,519	5,035	5,035	5,035	16,305	5,035	5,035	5,035

Robust standard errors clustered by firm in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

Table 27: OLS Regression Results for Announcement Date CAR, Combined Banker and Buyer Model

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	
<b>Dependent Variable: CAR</b>																		
Firm Divestiture Experience	0.0002** (0.0001)			0.0001 (0.0001)	0.0002 (0.0001)	0.0002 (0.0001)	0.0002* (0.0001)				-0.000 (0.0002)	0.0001 (0.0003)	0.0001 (0.0002)	-0.000 (0.0003)	0.0001 (0.0003)	0.000 (0.0003)	0.000 (0.0002)	0.000 (0.0003)
Banker Divestiture Experience		0.000* (0.000)		0.000** (0.000)	0.000** (0.000)			0.000* (0.000)	0.0001** (0.000)	0.000* (0.000)	0.000 (0.000)	0.000* (0.000)	0.0001** (0.000)	0.000 (0.000)	0.0001** (0.000)	0.0001** (0.000)	0.0001** (0.000)	
Buyer Divestiture Experience			0.0001 (0.0001)			0.0001 (0.0001)	0.0001 (0.0002)	0.0002 (0.0002)	0.001* (0.0006)	0.0002 (0.0002)	0.0002 (0.0002)	0.0004* (0.0002)	0.001* (0.0006)	0.0004 (0.0002)	0.001* (0.0006)	0.0011* (0.0006)	0.0011* (0.0006)	
Firm X Banker Divestiture Experience					-0.000 (0.000)									-0.000 (0.000)	-0.000 (0.000)		-0.000 (0.000)	
Firm X Buyer Divestiture Experience							-0.000 (0.000)						-0.000 (0.000)	-0.000 (0.000)		-0.000 (0.000)	-0.000 (0.000)	
Banker X Buyer Divestiture Experience								-0.000 (0.000)					-0.000 (0.000)		-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	
ln(Total Assets)	-0.0041*** (0.0006)	-0.0047*** (0.001)	-0.004*** (0.0009)	-0.0051*** (0.0011)	-0.0051*** (0.0011)	-0.0045*** (0.0011)	-0.0046*** (0.0011)	-0.004*** (0.0014)	-0.0041*** (0.0014)	-0.0039** (0.0017)	-0.0039** (0.0017)	-0.004** (0.0017)	-0.004** (0.0017)	-0.004** (0.0017)	-0.004** (0.0017)	-0.004** (0.0017)	-0.004** (0.0017)	
Negative Net Income	0.0059*** (0.0018)	0.0086*** (0.0033)	0.0099*** (0.003)	0.0085*** (0.0032)	0.0085*** (0.0032)	0.0096*** (0.0029)	0.0096*** (0.0029)	0.0116** (0.0052)	0.0117** (0.0052)	0.0117** (0.0052)	0.0117** (0.0052)	0.0116** (0.0052)	0.0118** (0.0052)	0.0116** (0.0052)	0.0118** (0.0052)	0.0117** (0.0052)	0.0117** (0.0052)	
Return on Equity	-0.000 (0.0001)	0.0004*** (0.0001)	0.0001 (0.0001)	0.0004*** (0.0001)	0.0004*** (0.0001)	0.0001 (0.0001)	0.0001 (0.0001)	0.0007*** (0.0003)	0.0007*** (0.0003)	0.0007*** (0.0003)	0.0007*** (0.0003)	0.0007*** (0.0003)	0.0007*** (0.0003)	0.0007*** (0.0003)	0.0007*** (0.0003)	0.0007*** (0.0003)	0.0007*** (0.0003)	
Herfindahl Index	-0.0036 (0.0023)	-0.010** (0.0044)	-0.0002 (0.0036)	-0.010** (0.0043)	-0.010** (0.0043)	-0.0002 (0.0036)	-0.0002 (0.0036)	-0.0091 (0.0067)	-0.0091 (0.0067)	-0.0092 (0.0067)	-0.0091 (0.0067)	-0.0089 (0.0067)	-0.0091 (0.0067)	-0.0089 (0.0067)	-0.0091 (0.0067)	-0.009 (0.0067)	-0.009 (0.0067)	
Unit-Parent Geographic Relatedness	0.0022 (0.0014)	0.0047 (0.0031)	0.007*** (0.0021)	0.0048 (0.0031)	0.0049 (0.0031)	0.007*** (0.0021)	0.0069*** (0.0021)	0.0081* (0.0047)	0.0082* (0.0047)	0.0081* (0.0047)	0.0081* (0.0047)	0.0077 (0.0047)	0.0083* (0.0047)	0.0077 (0.0047)	0.0082* (0.0047)	0.0079* (0.0047)	0.0079* (0.0047)	
Unit-Parent Industrial Relatedness	0.0012 (0.0015)	-0.0012 (0.0029)	-0.001 (0.0027)	-0.0011 (0.003)	-0.001 (0.003)	-0.0007 (0.0027)	-0.0008 (0.0027)	0.0043 (0.0058)	0.0042 (0.0057)	0.0043 (0.0058)	0.0043 (0.0058)	0.0042 (0.0058)	0.0042 (0.0058)	0.0042 (0.0058)	0.0042 (0.0058)	0.0042 (0.0058)	0.0042 (0.0058)	
Divestiture Program	-0.0007 (0.0017)	-0.0041 (0.0031)	-0.0025 (0.0027)	-0.0043 (0.0031)	-0.0044 (0.0031)	-0.0031 (0.0026)	-0.0032 (0.0026)	-0.0062 (0.0053)	-0.0064 (0.0053)	-0.0061 (0.0053)	-0.0062 (0.0052)	-0.0064 (0.0053)	-0.0063 (0.0053)	-0.0065 (0.0052)	-0.0064 (0.0052)	-0.0066 (0.0053)	-0.0066 (0.0052)	
Constant	0.0134 (0.0214)	0.0242 (0.023)	0.046** (0.0226)	0.0266 (0.0235)	0.0261 (0.0235)	0.0511** (0.0224)	0.0515** (0.0224)	0.0522*** (0.0147)	0.0494*** (0.0146)	0.0509*** (0.0162)	0.0508*** (0.0162)	0.053*** (0.0163)	0.0485*** (0.016)	0.053*** (0.0163)	0.0484*** (0.016)	0.0503*** (0.0161)	0.0503*** (0.0161)	
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
R-Squared	0.018	0.035	0.034	0.035	0.035	0.035	0.035	0.069	0.070	0.069	0.069	0.069	0.070	0.069	0.070	0.071	0.071	
Number of Observations	29,230	7,762	8,655	7,762	7,762	8,655	8,655	2,588	2,588	2,588	2,588	2,588	2,588	2,588	2,588	2,588	2,588	

Robust standard errors clustered by firm in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

Table 28: OLS Regression Results for Completion, Combined Banker and Buyer Model

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
<b>Dependent Variable: Completion (OLS)</b>																	
Firm Divestiture Experience	-0.001** (0.0004)			-0.0008** (0.0004)	0.0005 (0.0004)	-0.0016** (0.0006)	-0.0012* (0.0007)			-0.0013** (0.0006)	0.0005 (0.0009)	-0.0013** (0.0006)	-0.0013** (0.0006)	0.0005 (0.0009)	0.0006 (0.0009)	-0.0013** (0.0006)	0.0006 (0.0009)
Banker Divestiture Experience		-0.000 (0.000)		-0.000 (0.000)	-0.000 (0.000)			-0.0001 (0.000)	-0.0001 (0.0001)	-0.0001 (0.000)	-0.000 (0.0001)	-0.0001 (0.000)	-0.0001 (0.0001)	-0.000 (0.0001)	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.000 (0.0001)
Buyer Divestiture Experience			-0.0007 (0.0005)			-0.0006 (0.0005)	-0.000 (0.0005)	-0.0006 (0.0005)	-0.002 (0.0013)	-0.0006 (0.0005)	-0.0006 (0.0005)	-0.0007 (0.0006)	-0.002 (0.0013)	-0.0007 (0.0006)	-0.0021 (0.0013)	-0.002 (0.0013)	-0.0021 (0.0013)
Firm X Banker Divestiture Experience					-0.000** (0.000)						-0.000* (0.000)			-0.000* (0.000)	-0.000** (0.000)		-0.000** (0.000)
Firm X Buyer Divestiture Experience							-0.000 (0.000)					0.000 (0.000)		0.000 (0.000)		0.000 (0.000)	0.000 (0.000)
Banker X Buyer Divestiture Experience								0.000 (0.000)					0.000 (0.000)		0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
ln(Total Assets)	-0.0037** (0.0018)	-0.007*** (0.0023)	-0.0035 (0.0028)	-0.0044* (0.0026)	-0.005* (0.0026)	0.0007 (0.0032)	0.0004 (0.0032)	-0.0075** (0.0036)	-0.0074** (0.0036)	-0.0033 (0.0042)	-0.0042 (0.0042)	-0.0033 (0.0042)	-0.0032 (0.0042)	-0.0042 (0.0042)	-0.0041 (0.0042)	-0.0032 (0.0042)	-0.0041 (0.0042)
Negative Net Income	-0.0185*** (0.0061)	-0.0032 (0.0077)	-0.0112 (0.0101)	-0.0024 (0.0077)	-0.0021 (0.0077)	-0.0091 (0.0102)	-0.009 (0.0102)	0.006 (0.0121)	0.0058 (0.0121)	0.0079 (0.012)	0.0081 (0.012)	0.0079 (0.012)	0.0077 (0.012)	0.0081 (0.0121)	0.0079 (0.0121)	0.0077 (0.012)	0.0079 (0.012)
Leverage	0.0322** (0.0126)	0.0356* (0.0202)	-0.0126 (0.0232)	0.0374* (0.0203)	0.0366* (0.0201)	-0.0138 (0.023)	-0.0126 (0.023)	0.0298 (0.0342)	0.0286 (0.0341)	0.0301 (0.0333)	0.0283 (0.0332)	0.0299 (0.0334)	0.029 (0.0332)	0.0279 (0.0333)	0.027 (0.0331)	0.0289 (0.0332)	0.0267 (0.0332)
Tobin's q	-0.0004 (0.0006)	0.0005 (0.0006)	0.0002 (0.0002)	0.0005 (0.0006)	0.0005 (0.0006)	0.0004** (0.0002)	0.0004** (0.0002)	0.0071* (0.0037)	0.0072** (0.0037)	0.0077** (0.0036)	0.0072** (0.0037)	0.0077** (0.0036)	0.0078** (0.0035)	0.0072* (0.0037)	0.0073** (0.0036)	0.0078** (0.0035)	0.0073** (0.0036)
Return on Equity	0.000 (0.0001)	-0.0002 (0.0006)	0.0001 (0.0001)	-0.0001 (0.0006)	-0.0002 (0.0006)	0.0001 (0.0001)	0.0001 (0.0001)	-0.0002 (0.0005)	-0.0002 (0.0005)	-0.0002 (0.0005)	-0.0002 (0.0005)	-0.0002 (0.0005)	-0.0002 (0.0005)	-0.0002 (0.0005)	-0.0002 (0.0005)	-0.0002 (0.0005)	-0.0002 (0.0005)
Herfindahl Index	-0.0094 (0.0089)	-0.0148* (0.0089)	-0.0336** (0.0154)	-0.0149* (0.009)	-0.0153* (0.009)	-0.0336** (0.0155)	-0.0334** (0.0155)	-0.0167 (0.0134)	-0.0165 (0.0133)	-0.0175 (0.0134)	-0.0178 (0.0135)	-0.0175 (0.0134)	-0.0172 (0.0134)	-0.0178 (0.0135)	-0.0175 (0.0135)	-0.0172 (0.0134)	-0.0175 (0.0135)
Unit-Parent Size Ratio	-0.0465*** (0.0084)	-0.0568*** (0.0114)	-0.0072 (0.0136)	-0.0554*** (0.0114)	-0.0556*** (0.0114)	-0.0037 (0.0137)	-0.0047 (0.0137)	-0.0388** (0.0164)	-0.0394** (0.0164)	-0.0358** (0.0165)	-0.0356** (0.0165)	-0.0357** (0.0165)	-0.0364** (0.0165)	-0.0353** (0.0165)	-0.0362** (0.0165)	-0.0363** (0.0166)	-0.036** (0.0166)
Unit-Parent Geographic Relatedness	0.0348*** (0.0076)	-0.0066 (0.0076)	0.0457** (0.0186)	-0.0076 (0.0075)	-0.006 (0.0076)	0.0459** (0.0185)	0.0453** (0.0185)	-0.0103 (0.0165)	-0.0105 (0.0165)	-0.0094 (0.0162)	-0.0091 (0.0165)	-0.0094 (0.0162)	-0.0096 (0.0162)	-0.0091 (0.0164)	-0.0093 (0.0164)	-0.0096 (0.0162)	-0.0093 (0.0164)
Unit-Parent Industrial Relatedness	-0.0197*** (0.0061)	-0.0124* (0.0076)	-0.0243** (0.0104)	-0.0137* (0.0077)	-0.0133* (0.0076)	-0.0262** (0.0103)	-0.0262** (0.0103)	-0.0319** (0.0124)	-0.0316** (0.0124)	-0.0331*** (0.0124)	-0.0333*** (0.0123)	-0.0331*** (0.0124)	-0.0327*** (0.0124)	-0.0333*** (0.0123)	-0.0329*** (0.0124)	-0.0327*** (0.0124)	-0.0329*** (0.0124)
Divestiture Program	0.071*** (0.0063)	0.0234*** (0.0074)	0.0627*** (0.0108)	0.0253*** (0.0073)	0.0251*** (0.0073)	0.068*** (0.0107)	0.0669*** (0.0108)	0.018 (0.0125)	0.0182 (0.0125)	0.0215* (0.0121)	0.020* (0.0121)	0.0216* (0.0121)	0.0217* (0.0121)	0.0202* (0.0121)	0.0203* (0.0121)	0.0218* (0.0121)	0.0204* (0.0121)
Constant	0.812*** (0.103)	1.058*** (0.0333)	0.446 (0.330)	1.038*** (0.0352)	1.036*** (0.0342)	0.407 (0.327)	0.409 (0.328)	1.093*** (0.050)	1.098*** (0.0504)	1.051*** (0.053)	1.050*** (0.053)	1.050*** (0.0531)	1.055*** (0.0532)	1.049*** (0.053)	1.055*** (0.0532)	1.055*** (0.0533)	1.055*** (0.0533)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	0.054	0.055	0.069	0.056	0.058	0.071	0.072	0.086	0.087	0.088	0.090	0.088	0.089	0.090	0.091	0.089	0.091
Number of Observations	16,316	5,874	5,656	5,874	5,874	5,656	5,656	2,238	2,238	2,238	2,238	2,238	2,238	2,238	2,238	2,238	2,238

Robust standard errors clustered by firm in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10



Table 29: Negative Binomial Regression Results for Duration, Combined Banker and Buyer Model

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
<b>Dependent Variable: Duration</b>																	
Firm Divestiture Experience	-0.004*** (0.0015)			0.0004 (0.0016)	-0.007** (0.0028)	-0.0023 (0.0021)	-0.0038 (0.0025)			0.0016 (0.0022)	-0.0065* (0.0034)	0.0019 (0.0023)	0.0016 (0.0022)	-0.0064* (0.0034)	-0.0065* (0.0033)	0.0019 (0.0023)	-0.0064* (0.0033)
Banker Divestiture Experience		0.0011*** (0.0002)		0.0011*** (0.0002)	0.0009*** (0.0002)			0.0012*** (0.0003)	0.0012*** (0.0003)	0.0012*** (0.0003)	0.0009*** (0.0003)	0.0012*** (0.0003)	0.0012*** (0.0003)	0.0009*** (0.0003)	0.0009*** (0.0003)	0.0012*** (0.0003)	0.0009*** (0.0003)
Buyer Divestiture Experience			0.004* (0.0022)			0.0041* (0.0022)	0.0016 (0.003)	-0.0015 (0.0018)	-0.0016 (0.0053)	-0.0015 (0.0018)	-0.0017 (0.0018)	-0.001 (0.0024)	-0.0017 (0.0053)	-0.001 (0.0023)	-0.0016 (0.0053)	-0.0013 (0.0053)	-0.0011 (0.0053)
Firm X Banker Divestiture Experience					0.000*** (0.000)						0.000*** (0.000)		0.000*** (0.000)	0.000*** (0.000)			0.000*** (0.000)
Firm X Buyer Divestiture Experience							0.0002 (0.0003)					-0.000 (0.0001)		-0.0001 (0.0001)		-0.000 (0.0001)	-0.0001 (0.0001)
Banker X Buyer Divestiture Experience								0.000 (0.000)					0.000 (0.000)		-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
ln(Total Assets)	0.149*** (0.0126)	0.115*** (0.0128)	0.112*** (0.0156)	0.114*** (0.0139)	0.116*** (0.014)	0.118*** (0.0175)	0.118*** (0.0174)	0.119*** (0.0174)	0.119*** (0.0174)	0.113*** (0.0193)	0.118*** (0.0193)	0.113*** (0.0193)	0.113*** (0.0192)	0.117*** (0.0193)	0.118*** (0.0192)	0.113*** (0.0193)	0.117*** (0.0193)
Negative Net Income	-0.0313 (0.0424)	-0.0267 (0.0395)	-0.111** (0.0524)	-0.0269 (0.0395)	-0.026 (0.0395)	-0.110** (0.0525)	-0.110** (0.0525)	-0.125** (0.0539)	-0.125** (0.054)	-0.126** (0.0539)	-0.127** (0.054)	-0.126** (0.0539)	-0.126** (0.054)	-0.126** (0.054)	-0.127** (0.0541)	-0.126** (0.054)	-0.127** (0.0541)
Leverage	-0.574*** (0.106)	-0.533*** (0.101)	-0.375*** (0.120)	-0.534*** (0.101)	-0.527*** (0.103)	-0.370*** (0.124)	-0.376*** (0.120)	-0.548*** (0.131)	-0.548*** (0.131)	-0.553*** (0.132)	-0.540*** (0.133)	-0.551*** (0.132)	-0.553*** (0.132)	-0.537*** (0.133)	-0.540*** (0.133)	-0.551*** (0.132)	-0.537*** (0.133)
Tobin's q	0.0292 (0.0251)	0.0203 (0.0208)	-0.0033 (0.0252)	0.0201 (0.0205)	0.0216 (0.0228)	-0.002 (0.0308)	-0.0036 (0.0233)	0.0832*** (0.0222)	0.0833*** (0.0222)	0.0816*** (0.0224)	0.0846*** (0.0227)	0.082*** (0.0224)	0.0816*** (0.0224)	0.0853*** (0.0228)	0.0846*** (0.0227)	0.0821*** (0.0224)	0.0853*** (0.0228)
Return on Equity	-0.0034 (0.0066)	0.0021 (0.0076)	-0.0079*** (0.0027)	0.0021 (0.0076)	0.0021 (0.0076)	-0.0079*** (0.0027)	-0.0078*** (0.0027)	-0.0115 (0.0095)	-0.0115 (0.0095)	-0.0116 (0.0095)	-0.0115 (0.0094)	-0.0116 (0.0095)	-0.0116 (0.0095)	-0.0115 (0.0095)	-0.0115 (0.0094)	-0.0115 (0.0095)	-0.0115 (0.0095)
Herfindahl Index	-0.138** (0.0598)	-0.120** (0.0579)	0.064 (0.0711)	-0.120** (0.0579)	-0.123** (0.058)	0.0652 (0.071)	0.0672 (0.0708)	-0.026 (0.0766)	-0.0261 (0.0766)	-0.0265 (0.0767)	-0.0297 (0.0765)	-0.0262 (0.0767)	-0.0265 (0.0766)	-0.0295 (0.0765)	-0.0296 (0.0764)	-0.0264 (0.0766)	-0.0295 (0.0764)
Unit-Parent Size Ratio	0.817*** (0.047)	0.599*** (0.048)	0.764*** (0.062)	0.598*** (0.048)	0.597*** (0.048)	0.770*** (0.0626)	0.772*** (0.0622)	0.736*** (0.0643)	0.736*** (0.0644)	0.731*** (0.0644)	0.730*** (0.0647)	0.730*** (0.0646)	0.731*** (0.0645)	0.729*** (0.0649)	0.730*** (0.0648)	0.730*** (0.0647)	0.729*** (0.065)
Unit-Parent Geographic Relatedness	0.188*** (0.0572)	0.371*** (0.0507)	0.0084 (0.122)	0.372*** (0.0507)	0.362*** (0.051)	0.0082 (0.123)	0.0153 (0.121)	0.0432 (0.113)	0.0431 (0.113)	0.0408 (0.113)	0.0397 (0.113)	0.0403 (0.113)	0.0408 (0.113)	0.0389 (0.114)	0.0397 (0.113)	0.0402 (0.113)	0.0388 (0.114)
Unit-Parent Industrial Relatedness	0.0192 (0.0379)	0.0988*** (0.0363)	0.0361 (0.0468)	0.0993*** (0.0364)	0.0986*** (0.0365)	0.0334 (0.0475)	0.0329 (0.0472)	0.0184 (0.0506)	0.0185 (0.0506)	0.0205 (0.051)	0.0221 (0.051)	0.0205 (0.051)	0.0206 (0.051)	0.0222 (0.051)	0.0221 (0.051)	0.0207 (0.051)	0.0223 (0.051)
Divestiture Program	-0.111*** (0.039)	-0.0903** (0.0412)	0.0173 (0.053)	-0.0912** (0.0415)	-0.088** (0.0413)	0.0245 (0.0529)	0.0275 (0.053)	-0.0337 (0.0551)	-0.0337 (0.0551)	-0.0374 (0.0553)	-0.0302 (0.0551)	-0.0385 (0.0553)	-0.0373 (0.0553)	-0.0315 (0.0551)	-0.0302 (0.0551)	-0.0385 (0.0553)	-0.0315 (0.0551)
Constant	2.685*** (0.320)	2.839*** (0.372)	3.273*** (0.247)	2.848*** (0.373)	2.864*** (0.361)	3.207*** (0.272)	3.190*** (0.264)	3.044*** (0.231)	3.044*** (0.233)	3.102*** (0.260)	3.092*** (0.260)	3.105*** (0.260)	3.103*** (0.262)	3.095*** (0.260)	3.091*** (0.262)	3.106*** (0.262)	3.096*** (0.262)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	14,519	5,566	5,035	5,566	5,566	5,035	5,035	2,121	2,121	2,121	2,121	2,121	2,121	2,121	2,121	2,121	2,121

Robust standard errors clustered by firm in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

Figure 31: Partial Derivative of Divestiture Performance with Respect to Firm Divestiture Experience vs. Banker Divestiture Experience. Includes all terms (significant and insignificant).

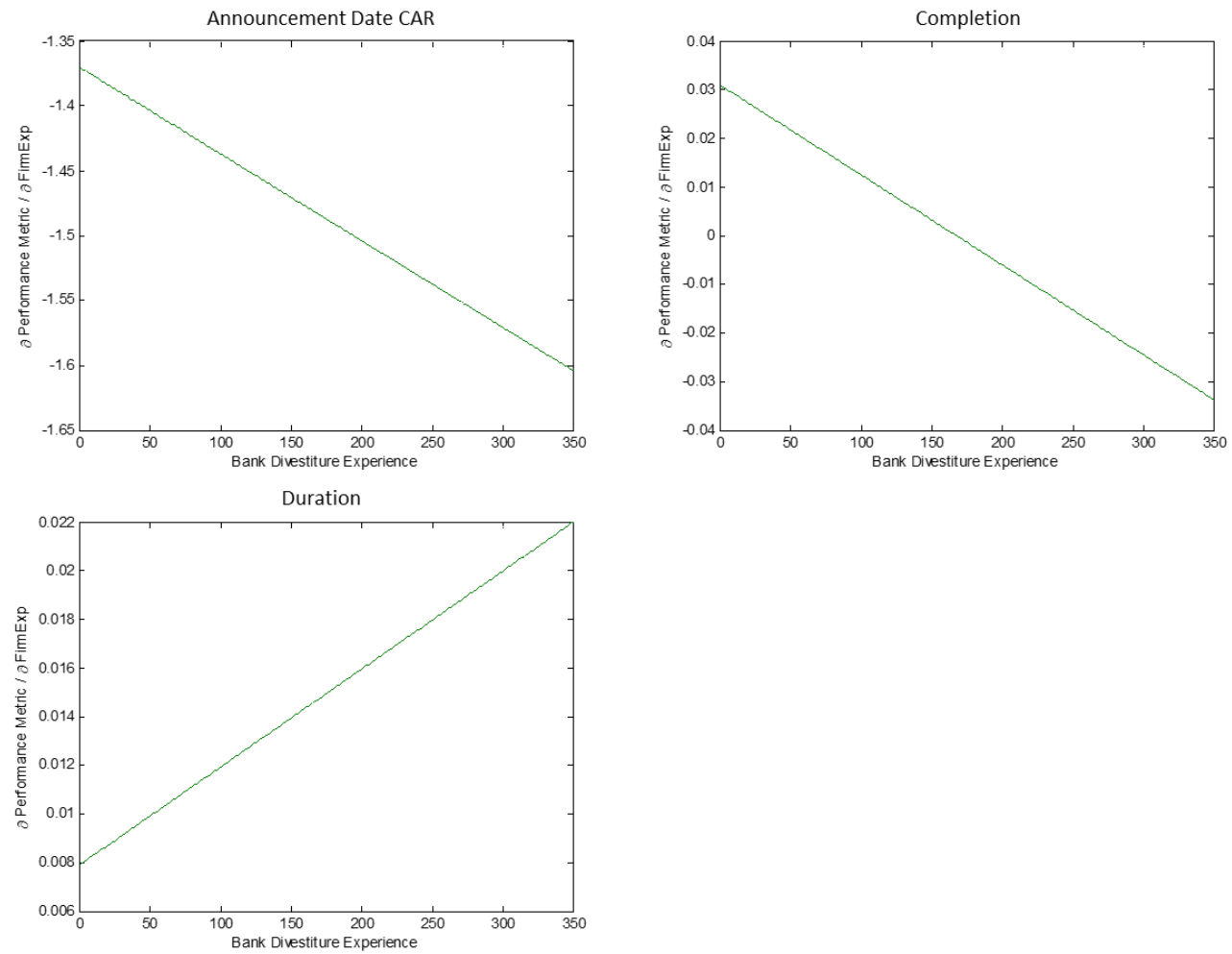


Figure 32: Divestiture Performance vs. Firm Divestiture Experience for Different Levels of Banker Divestiture Experience Includes all terms (significant and insignificant).

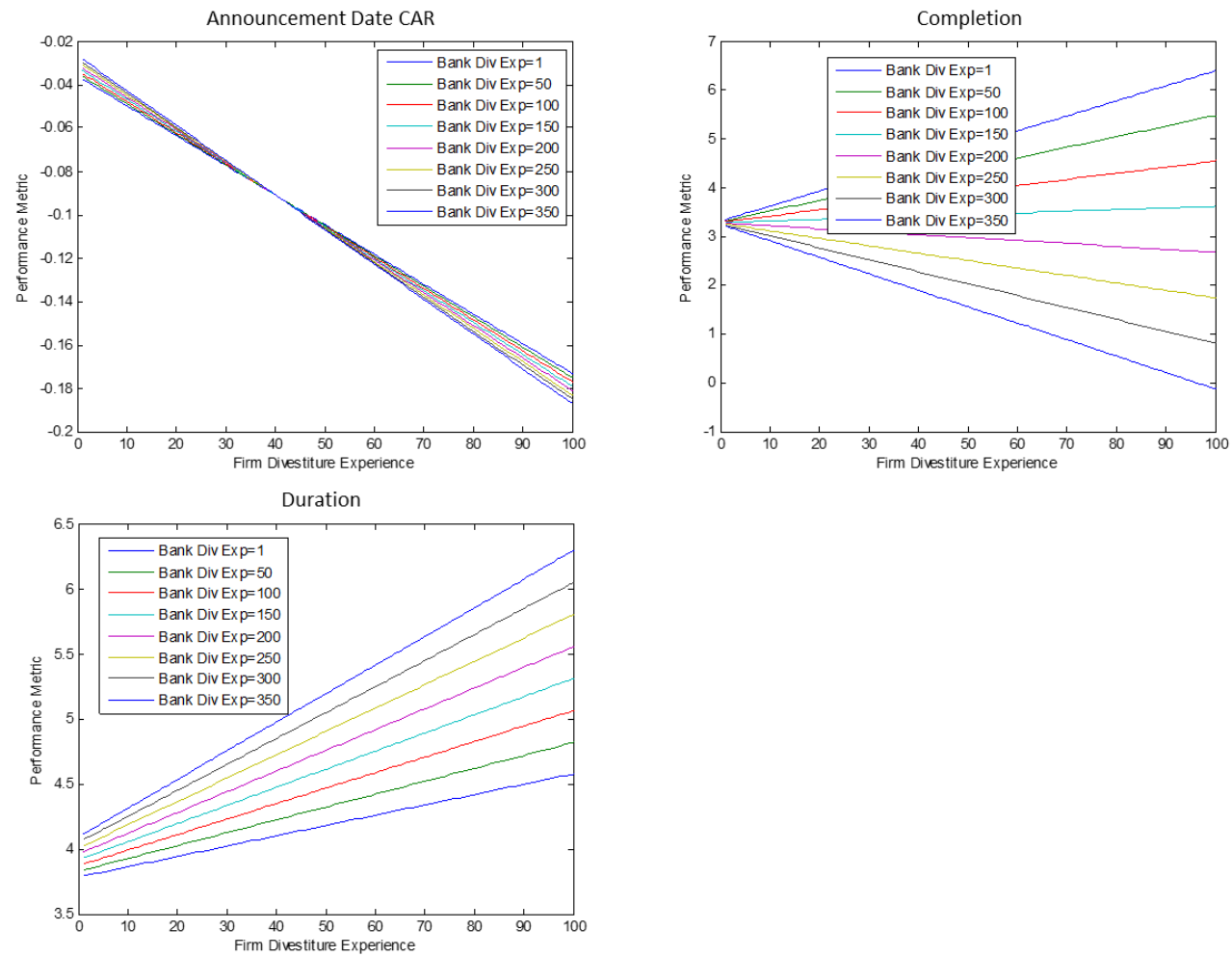


Figure 33: Contour Plot for Hypothesis 2 Discussion (Banker Models). Includes all terms (significant and insignificant).

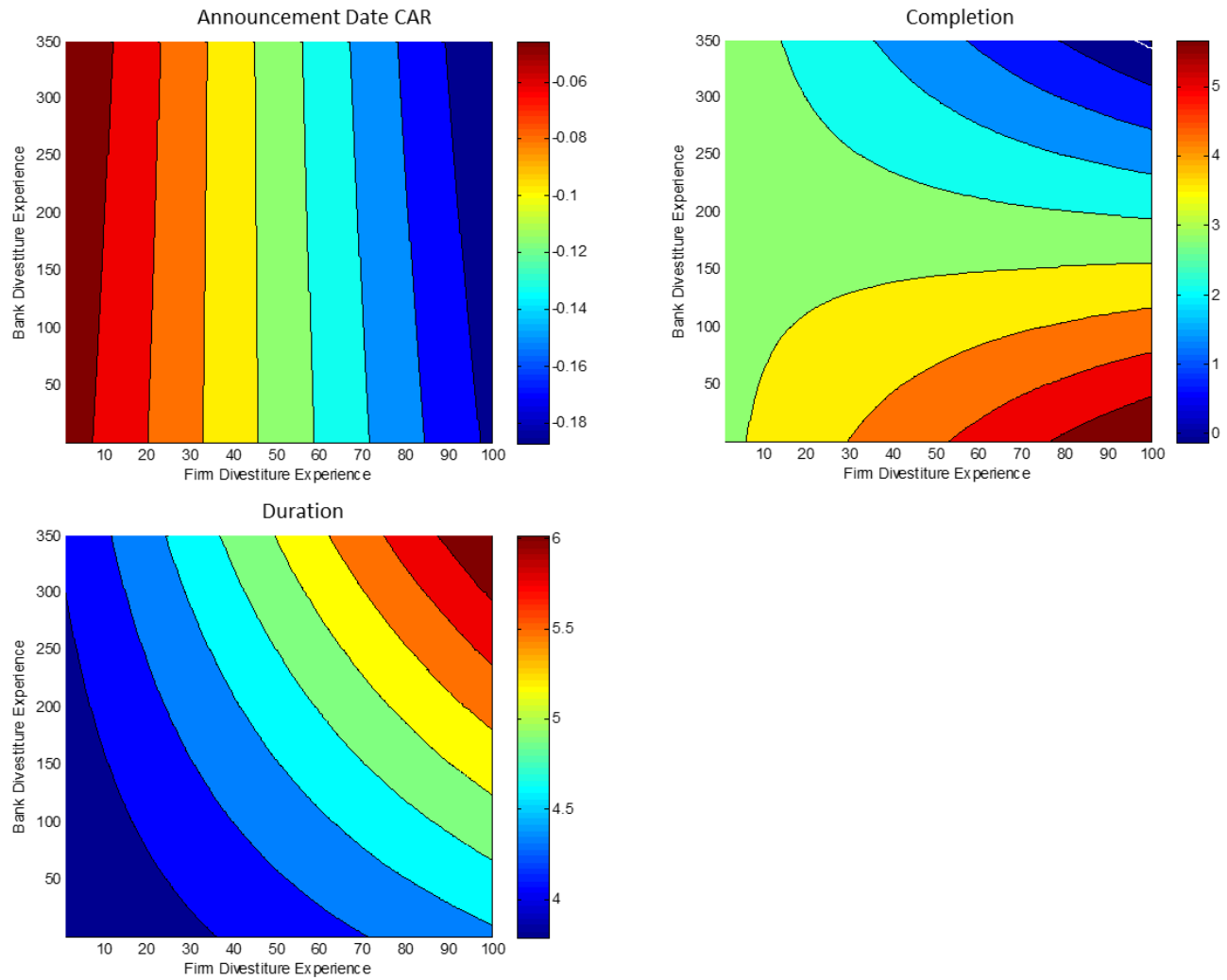
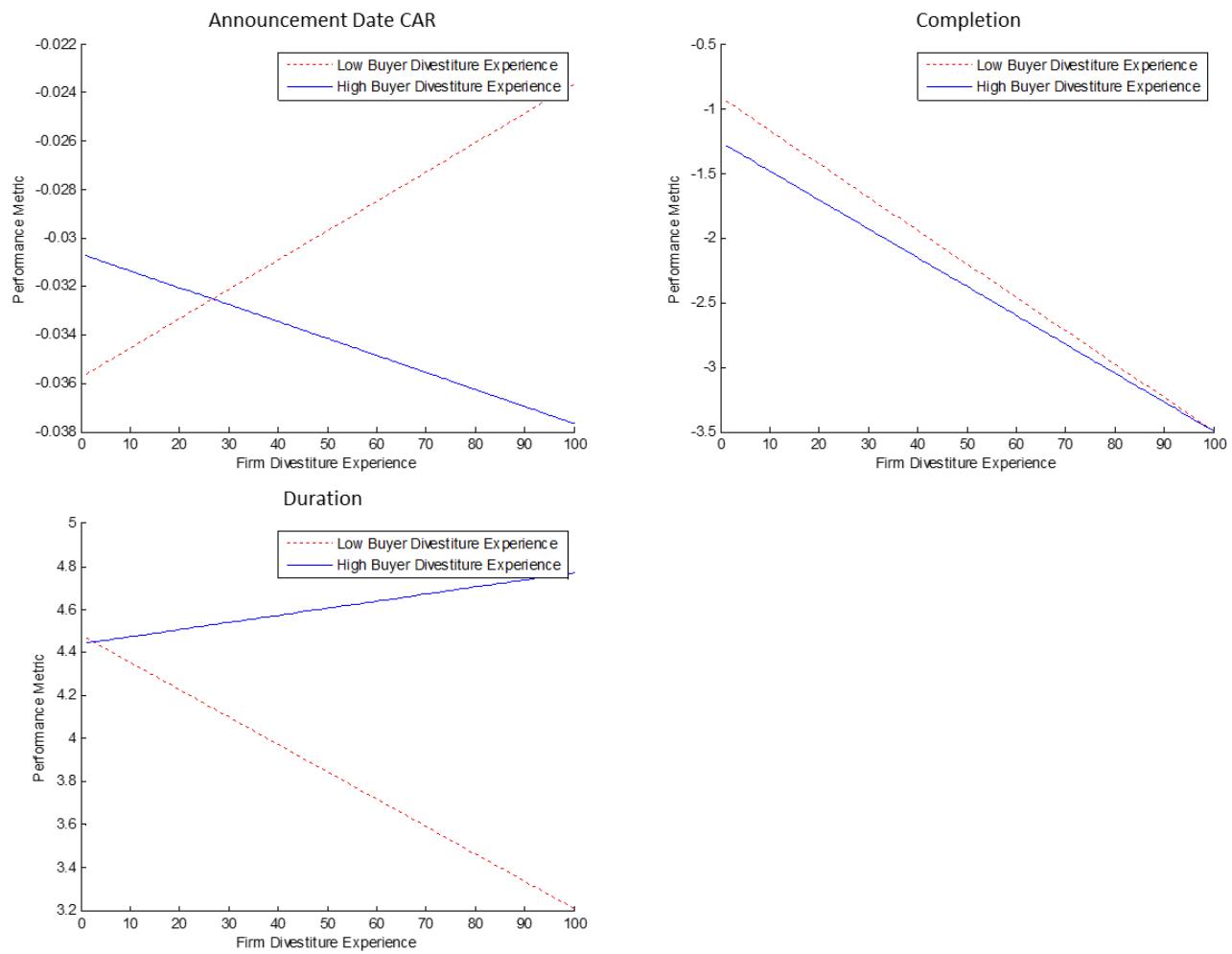


Figure 34: Divestiture Performance vs. Firm Divestiture Experience for High/Low Buyer Divestiture Experience. Includes all terms (significant and insignificant).



## **5 CONCLUSION**

The objective of this dissertation was to examine whether and, if so, how firms learn to achieve superior divestiture performance. The viability and efficacy of three major learning processes – first-hand experience accumulation, internal experience transfer, and external experience transfer – were investigated in the context of divestiture. From this platform, this dissertation yields new insights into the potential (and limitations) of firm learning as a source of competitive advantage and, at the same time, advances our understanding of corporate divestiture. Importantly, in making progress on these fronts, this research further speaks to several vibrant conversations in strategic management: firm scope, the market for corporate control, and firm capability development. In this concluding section, the specific contributions and broad implications of this dissertation are discussed, followed by recommendations for future research.

### **5.1 Contributions**

This dissertation began with an examination of whether and how the firm's own first-hand divestiture experience may impact its divestiture performance. In contrast to prior research dedicated to unpacking the experience-performance link in the context of scope expansion, consideration of the potential value of direct experience accumulation in the context of scope reduction has been comparatively underexplored. The inconsistent empirical results of these earlier studies do, however, serve to starkly illustrate the reality that “experience is often a poor teacher” (Levinthal & March 1993, pg. 98), and, consequently, that the issue of whether and how firms learn is not clear-cut. As a result, an underpinning premise of this research was the recognition that consideration of the “whether” is just as interesting – and just as crucial – as the “how” when examining divestiture experience as a possible source of firm performance heterogeneity. In an effort to make headway on this stubborn, two-pronged question of firm learning, a process-oriented approach was taken in this dissertation. A collection of six divestiture process performance measures was developed and used accordingly. Considering the potential

relationship between experience and performance at the process level, and doing so quantitatively in a large sample, is a fresh approach that proved to be valuable in deciphering this relationship's complexities. Notably, while divestiture experience was found to benefit performance for most of the process performance measures identified, it was also found to impair the likelihood of divestiture deal completion. One interpretation of this finding is that the presence of this negative relationship between divestiture experience and completion evidences mis-learning on behalf of the firm, and thus poses a tradeoff for firms aiming to gain from the positive benefits of learning demonstrated in other aspects of process performance. Another interpretation suggests that deal completion is measuring something different than what was originally believed. Indeed, this result may be surfacing the market savviness of experienced firms – sellers who are able to engage in a unbiased appraisal of the value of their business units will know when walking away from a deal is the best choice.

Building upon this foundation, the potential for firm learning through internal experience transfer was next investigated, focusing specifically on whether and how a firm's acquisition experience may impact its divestiture performance. Thus, this dissertation considered the important case of activity-to-activity internal experience transfer, wherein the firm's experience in one activity is applied to its execution of another. Considering such activity-to-activity internal experience transfer complements and extends the more typically considered case of context-to-context internal experience transfer, wherein the firm applies its experience in a particular activity in one context to another, different, context (e.g. the firm transfers its acquisition experience in one industry to another, or in one country to another). Furthermore, in addressing such activity-to-activity, or acquisition-to-divestiture, internal experience transfer, this research offers a more realistic representation of the firm's learning environment. A firm's activities do not occur in isolation -- they are comingled, and thus the firm's learning processes may be comingled as well. In an aim to comprehensively represent and analyze the full potential of acquisition experience

transfer on divestiture performance, two avenues for experience transfer were considered: direct and moderating. In the first, the firm's acquisition experience is directly applied to its execution of divestiture. This path represents the question of whether a firm's learning how to acquire directly impacts its execution of divestiture. Prior studies of internal experience transfer in corporate development mainly focus on this direct path alone. This dissertation widens the examination to consider a second, moderating, avenue for transfer, in which the transfer of the firm's acquisition experience moderates the relationship between the firm's divestiture experience and its divestiture performance. This path for transfer surfaces the issue of whether a firm's learning how to acquire influences its ability to learn how to divest from its own divestiture experience. The results of this dissertation demonstrate, for the first time, the viability of both paths of internal experience transfer. Furthermore, the possibility for curvilinear relationships in both the direct and moderating paths to transfer was explored and confirmed, thereby offering a novel view of the double-edged nature of experience and its efficacy in internal experience transfer.

Lastly, the lens of analysis was turned from inside the firm to outside its boundaries, and the potential for an external experience transfer process in divestiture was explored. In this case, the firm sources divestiture experience from outside of the firm. This dissertation investigated whether and how such externally-sourced divestiture experience impacts firm divestiture performance. Two major categories of exchange partners were considered: advisors (represented by investment banks) and competitors (represented by the acquiring buyers). Exchange partners can serve as important sources from which firms may obtain external experience. But, as the roles of these exchange partners vary, so too can their motivations as they engage with the firm. A premise of this dissertation was that such differences may hold consequences for the way in which their experience is transferred to the firm, as well as for the manner in which this external experience impacts firm performance. This dissertation's divestiture setting allowed for not only



the study of these two important classes of exchange partners, but it allowed for their consideration in the context of one of the most common types of relationships that firms have with outside parties – relationships that are non-learning focused (here, the focus is to execute a divestiture), are temporary (terminating at the divestiture’s completion, with no guarantees of repeated exchange going forward), and are characterized by substantial engagement between the exchange partners (in divestiture, the selling firm typically has extensive and intensive interactions with both its investment bank and its competitor). Thus, in considering these types of exchange partners, and this type of exchange relationship, this dissertation assesses the potential for external experience transfer in a context that represents the vast majority of firm relationships – these are commonplace relationships, but ones that are central to the firm’s activities – and probes the divestiture learning ramifications due to differences in the divestiture experience source. Notably, the results of this dissertation demonstrated that, when external experience transfer does occur, it is remarkably effective – it has an outside effect on firm divestiture performance, oftentimes superseding the impact of the firm’s own divestiture experience, irrespective of which of the two types of sources was considered. While the results showed that the activation of learning transfer varies with the source of the experience, the results also demonstrated that when a certain transfer path is present for both types of sources (the investment banks and the buyers), the performance-enhancing (or performance-impairing) effect of that external transfer on divestiture performance is the same, regardless of the source. Given that the underpinning motivations of bankers and buyers involved in divestiture transactions differ, this consistency in outcome is notable. As such, I find that the performance impact of external experience transfer often runs counter to theoretical predictions and managerial expectations.

Taken together, the insights gleaned from examining the triad of first-hand experience accumulation, internal experience transfer, and external experience transfer make great headway in unraveling the issue at the heart of this dissertation: whether and how firms learn to achieve

superior divestiture performance. Stated succinctly, this dissertation demonstrates that firms can learn to divest through their own divestiture experience, but experience transfer can have greater impact. However, this dissertation also shows that experience can hurt, as well as help, the firm's divestiture performance.

Embedded within this overall takeaway are three key insights. First, these learning processes are complex. Using a variety of performance variables that tracked to the divestiture process itself, and which reflected how divestiture is evaluated by managers in practice, was a key catalyst for revealing this complexity. Without this nuanced -- but realistic -- view, we would be in peril of having an incomplete and inaccurate view of learning in divestiture. Second, managerial tradeoffs are pervasive throughout these learning processes. The double-edged nature of experience was evidenced throughout -- in the set of different types of performance measures, within the firm's accumulation of experience, and across the different types and sources of experience. Third, the learning paths available to the firm vary dramatically in their viability and efficacy, and often in opposition to expectations. In providing a more comprehensive and clearer view of firm learning than previously available, this dissertation can serve as valuable tool for firms aiming to develop a divestiture learning strategy, as its insights can help firms to identify and capitalize upon their own best opportunities for leveraging learning in achieving superior divestiture performance.

## **5.2 Implications**

In addition to the specific contributions described above, this dissertation offers important implications for three areas of keen interest in strategic management: firm scope, the market for corporate control, and firm capability development.

### **5.2.1 Firm Scope**

Firm scope has long been an important focus in strategic management research, starting with the earliest work on diversification and performance. Considering scope-changing

transactions provides a complementary view, offering additional research questions and identifying new opportunities for relating value creation to firm scope. When examining the firm's boundary-changing moves, prior research has typically emphasized transactions that enable scope expansion, such as acquisitions and alliances. Such an emphasis is fully in keeping with the resource-based view, which has been the primary lens informing the relationship of scope with performance, and its premise that diversification is driven by a firm's need to expand into adjacent areas to appropriate more value from its indivisible, and thus underutilized, resources.

Through its focused and comprehensive examination of divestiture, along with its consideration of the interrelationship between acquisition and divestiture, this dissertation helps to elucidate the inveterate role of divestiture in scope change and its crucial role in value creation from firm diversification. Indeed, firm scope is necessarily dynamic; it must not only expand, but also contract to meet the evolving strategic demands of the firm. This dissertation illuminates the point that conversations around firm scope change must not be dominated solely by growth. Divestiture is a valuable and necessary partner with acquisition for creating value from the firm's scope-changing moves.

### **5.2.2 The Market for Corporate Control**

This dissertation also holds implications for the market for corporate control. In the market for corporate control, would-be acquirers aggressively search for targets vulnerable to takeover, using the poor performance of business units or their parent firms as a guide. In this regard, the market for corporate control may serve as an external driver of the corporate divestitures that were of focus in this dissertation.

For one, this dissertation sheds light on the properties of the market for corporate control. One view of the market for corporate control is that it is driven by the likes of activist investors, who use ownership of a small percentage of the firm as a toehold from which to instigate

corporate restructuring, and by private equity firms, who are motivated by their promised intentions to spend their investment funds on targets that will quickly benefit from restructuring within a five- to eight-year timeframe. The findings of this dissertation encourage the expansion of this perspective of the market for corporate control to include the “strategic corporates” – conventional firms of the type that were examined in this dissertation – as being active and willing participants in this market, rather than just as reluctant sellers whose hands were forced to redeploy their assets. Indeed, this dissertation shows that these firms contribute to the market’s vibrancy as both buyers and sellers of assets. This dissertation serves to evidence the fact that there are, indisputably, two sides to this market. Further, this dissertation underscores that process intermediaries like investment banks are a key feature of the market for corporate control, wherein they may serve to identify and match these buyers and sellers.

For another, this dissertation sheds light on the functioning of the market for corporate control. Notably, it illuminates the seemingly critical role that divestiture experience plays in ensuring smooth operations of this market. The fact that participation of highly experienced divesting firms -- and the even more experienced investment banks -- corresponds with a reduction in the likelihood of deal completion suggests that assets are not being placed into this market recklessly – that “smart” firms and intermediaries are willing to pull back from a divestiture if they determine they cannot derive the necessary value expected from the transaction.

This dissertation surfaces other aspects of the operations of the market for corporate control as well. Some scholars have used an agency perspective through which to interpret this market. Viewed through this lens, the market plays a disciplining role (such as via activist investors) to correct agency problems and ensure that firms are maximizing the value of their assets. Other scholars use a perspective that sees the market as a clearinghouse that ensures optimal asset ownership. Potential acquirers will bid only for those assets from which they feel

they can capture value. Through the bidding process, the market ensures that assets are placed with their “best” or most effective owner, as the highest bid that matches the buyer to the asset reflects the highest amount of acquirer confidence in realizing the value of the asset. This dissertation lends credence to both interpretations. Firms divest at a loss and a gain relative fair value of the assets, which resonates with the agency view in the case of the former and clearinghouse view in the latter.

### **5.2.3 Firm Capability Development**

This dissertation has important implications for our understanding of capability development in firms on several fronts. On one front, this research establishes the potential for firm capability-building in an understudied aspect of scope change. While prior studies have taught us much about capability development in the context of scope expansion, especially around acquisition capabilities and alliance capabilities, our understanding of capability development in the context of scope reduction has heretofore remained strikingly limited. Through its focused and comprehensive consideration of the divestiture process, this research soundly demonstrates the potential for firm divestiture capability development and illuminates the relationship between firm divestiture capability and performance.

On a second front, this dissertation surfaces the role of concurrent learning and its implications for capability development in firms. To date, with only a handful of exceptions, previous research has not addressed the possibility and ramifications of comingling between the firm’s learning processes. This is in spite of the fact that many of the firm’s strategic activities, such as those pertaining to scope change, seldom occur in isolation in practice. This dissertation explores concurrent learning in the context of acquisition and divestiture, and finds compelling evidence that suggests that these capability-building processes in firms are intertwined. Specifically, it is found that learning to acquire can impact not only divestiture performance, but, intriguingly, the divestiture learning process itself. As such, this dissertation not only offers new

insights into concurrent learning, but serves as an important platform for further investigation of the comingling of capability development processes in firms.

On a third front, this research advances our understanding of capability sourcing by firms. Colloquially stated, firms are not superheroes. While there are numerous domains in which firms may build capabilities and benefit from their deployment, firm's bandwidth capacity to hone and master all such capabilities is constrained. Indeed, an attempt to master all capabilities is likely an attempt to master none of them. As such, the extent to which firms can outsource their capability development – to turn to external sources to borrow or buy capabilities – is an appealing, and likely necessary, option. This dissertation demonstrates that capability outsourcing can be a powerful alternative in the divestiture context. The results indicate that firms can not only outsource capabilities in a direct fashion (wherein the externally transferred capability is directly applied to the divestiture activity at hand), but that firms may also inject sourced capabilities into their own capability-building processes. Thus, outsourced capabilities may serve as both replacement and supplement for a firm's own capability development. Furthermore, the effectiveness of transfer and outsized impact that external divestiture capability was shown to have on divestiture performance in this dissertation implies that outsourcing capabilities can be a powerful option for firms. This in turn suggests that firms' deliberate design of their capability portfolios, as to which capabilities to build and which to source, could be an important component of firm performance success.

### **5.3 Recommendations for Future Research**

The contributions and implications of this dissertation suggest numerous intriguing avenues for future research. For example, consideration of private equity firms could serve as a valuable setting from which to study firm learning in the context of corporate divestiture. Private equity firms and strategic corporate firms are often found bidding against each other in the market for corporate control. From a perspective of firm scope change, private equity firms “buy to sell”

assets, as opposed to the “buy to hold” approach of strategic corporates. This, in turn, encourages private equity firms to treat acquisition and divestiture as a single, unified transaction, since private equity firms predicate their acquisitions with a clear view towards divestiture (or “exit”). Such a holistic approach to scope expansion and scope reduction could consequently hold meaningful insights around capability development in firms.

As another example, widening the consideration of internal experience transfer to include more of the firm’s strategic activities, beyond just those of divestiture and acquisition, could prove very valuable in further deciphering the capability building process in firms. Treating the full portfolio of the firm’s scope-expansion and scope-reduction activities could shed more light on how their associated learning and capability development processes may be intertwined. Pursuing this avenue of investigation may also allow for a greater understanding of which, and when, firm capability building in scope-changing activities may be successfully supplemented or replaced by externally-sourced capabilities.

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