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Strategic restructuring: Study of divestitures and acquisitions

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Strategic restructuring: Study of divestitures and acquisitions

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The student author, whose presentation of the scholarship herein was approved by the program of study committee, is solely responsible for the content of this dissertation. The Graduate College will ensure this dissertation is globally accessible and will not permit alterations after a degree is conferred.

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DEDICATION

To my best friend, Sani.

To my loveliest sister, Sayeh.

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NOMENCLATURE

M&A	Mergers and Acquisitions
RBV	Resource Based View
RDT	Resource Dependence Theory
ROT	Real Options Theory
MBO	Management Buy-Out
LBO	Leverage Buy-Out

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ABSTRACT

This dissertation consists of two academic papers studying strategic restructuring through acquisitions and divestitures. Divestitures refer to detaching part of a firm operations or assets through sells-offs, spin-offs, equity carve-outs, or split-offs. There is more research on acquisitions than divestitures, and current research on corporate divestitures is fragmented across multiple disciplines and theoretical perspectives.

The first paper, serving as the foundation for this dissertation, reviews and synthesizes findings and theoretical implications over the last two decades on divestment antecedents, process, and outcomes. Casting light into different stages of the divestment process and identifying likely interactions between antecedents and processes, and their implications on divestiture performance, findings suggest that divestment capabilities may be limited to specific types. This implies that companies can employ different types of divestitures or use divestitures adjacent to other restructuring techniques to improve outcomes. Accordingly, the second paper empirically investigates divestment of prior acquisitions to explain how corporations use a combination of divestitures and acquisitions to restructure their business portfolios. Findings show that managers view acquisitions that lower corporations' risk as more valuable than acquisitions that increase the risk, and thus, are more likely to retain the former while divesting the latter.

In conclusion, the theoretical perspectives and empirical results by this dissertation contributes to a better understanding of divestitures as a means of strategic restructuring of corporations' business portfolios. It facilitates divestment decisions by providing a better understanding of divestiture drivers and execution mechanisms. In addition, it identifies gaps and future study directions.

CHAPTER 1. **INTRODUCTION**

Corporate divestment is a tool for strategic change that has significant implications for firm survival (Feldman & McGrath, 2016; Kolev, 2016). Even though conventional literature views divestitures as the mirror image of M&A, contemporary research recognizes acquisition and divestment are distinct though complementary tools for restructuring a firm's governance, ownership and portfolio of businesses (e.g., Brauer, 2006; Mulherin & Boone, 2000; Villalonga & McGahan, 2005). Moreover, firms apply certain types of divestitures to exit a segment, enter a new business segment, or develop a new technology.

1.1 Types of Divestiture

Divestitures take different forms of sell-offs, spin-offs, equity carve-outs, management buy-outs, split-ups and offs, and leverage buy-outs. In sell-offs, the full ownership of a business unit will be transferred to another company in exchange for cash. In spin-offs, a new public firm emerges through divesting a business unit from a parent firm, and stock shares are distributed to parent's shareholders in pro-rata with no cash proceeds in a process similar to paying a dividend. In split-offs, the shares of a firm subsidiary are pro-rata distributed among its current shareholders in exchange for part of their existing shares in the parent firm. Split-ups are similar to split-offs except the parent firm dissolves after pro-rata distributing all shares in its subsidiaries to its existing shareholders. In leveraged buy-outs (LBO), a private investment group purchases an entire firm or a division often using debt. Management buy-out (MBO) is a specific form of LBOs, where incumbent managers buy a part or the entire firm from its current stockholders through borrowing from other investors. In equity carve-outs, a business unit turns into a new public firm with its stock

partly distributed to public to raise funds, while parent firm retains control over the unit in most cases.

1.2 Why Important

Divesture research is fragmented across multiple disciplines that draw on numerous theories and perspectives to investigate various aspects of divestiture antecedents, process, and outcomes. Divestiture has been viewed in a wide range of contexts ranging from a stigmatized, passive reaction to proactive strategic change (e.g., Dranikoff, Koller, & Schneider, 2002). For example, financial economic literature establishes divestiture as means of overcoming corporate diversification discount to address agency problems, improve firm capital structure, resolve financial distress, and facilitate lower financing costs (Feldman & McGrath, 2016). Meanwhile, research in strategic management views divestiture as restructuring to achieve multiple goals, including refocusing, correcting prior mistakes (Markides & Singh, 1997), gaining innovation (Moschieri & Mair, 2011), and adapting to environmental change (e.g., Berry, 2013; Funk & Luo, 2015). Examples exist on both sides. On one hand, GM's divestment of its long time loss making European Opel/Vauxhall unit in 2017, after it retreated from its initial decision in 2009, can be viewed as a correction of a mistake. On the other hand, GE proactively planned a series of divestitures, including high performing units, during the Jack Welch period of incumbency. The associated fragmentation of divestment topic suggests it deserves integration, as continues to generate significant interest to both researchers and practitioners and a review can summarize what is known and what remains to be explored.

1.3 Research Questions

This dissertation ties together multiple perspectives and methodologies to study the corporations' strategic restructuring behavior using; first, divestitures, and second, conjoint

acquisitions and divestitures. With respect to the former, the decision to divest, like many other strategic decisions is contingent on a set of factors, and therefore, this dissertation seeks to address the questions of:

1- *What drives divestiture decisions?*
2- *What determines the divestiture process?*
3- *What are the performance consequences of divestitures?*

For example, research indicates a broad range of theoretical perspectives applicable to study a large number of antecedents—e.g., task and general environments—driving distinct modes of divestments—e.g., spin-offs or sell-offs—with various performance consequences—e.g., innovation, growth, or overcoming financial distress. With respect to the collective use of acquisitions and divestments, this dissertation examines portfolio restructuring to explain:

4- *How do firms employ acquisitions and divestitures to restructure their business portfolios?*

Below is the summary of the different papers.

1.4 Overview of the Academic Papers

The first paper *"Divestment Review"* is a multidisciplinary review of the corporate divestment literature. This review integrates findings and theoretical perspectives on distinct phases of divestitures into a classic framework of antecedents, processes, outcomes, and moderators of performance. In addition to identifying gaps and future study directions, it facilitates divestment decisions by providing a better understanding of divestiture drivers and execution mechanisms, casting light into different stages of the divestment process, and identifying likely interactions between antecedents and processes, as well as their implications on divestiture performance. This paper also extends prior reviews to include environmental forces as an antecedent to divesting prior acquisitions.

The second paper *"Divestiture of Prior Acquisitions"* views divestitures and acquisitions as complementary parts of a larger strategic restructuring program, rather than stand-alone phenomena. This study employs event history analysis to examine how firms use a combination of divestitures and acquisitions to restructure their business portfolios. It draws on portfolio restructuring perspective to investigate the impact of corporate risk on firms' divestments of their prior acquisitions. It mainly argues that firms tend to view acquisitions that lower corporate performance variation as more valuable than acquisitions that increase performance variation. Therefore, firms are more likely to retain the former while divesting the latter. This study has two primary contributions. First, it considers the potential inter-unit value contributions and spillovers in evaluating acquired units by viewing a unit in the context of a corporate portfolio of businesses, rather than as a distinct unit. Second, it focuses on risk rather than performance as antecedents to divestment of prior acquisitions. For example, prior research displays conflicting evidence on acquisition relatedness, and this study shows that related acquisitions are more likely to be divested if they increase a firm's risk.

CHAPTER 2. A REVIEW OF CORPORATE DIVESTMENT ANTECEDENTS, PROCESSES AND OUTCOMES

Sina Amiri, David King, Samuel DeMarie

Abstract

Divestment represents an important corporate strategic tool; however, research on divestment is eclipsed by research on mergers and acquisitions, and divestment is often incorrectly considered an inverse of an acquisition. Further, most divestment research focuses on performance at the expense of antecedents and processes that set the foundation for later performance. Our review provides a more complete picture of the stages of divestment with a focus on summarizing literature on divestment antecedents and processes. The result shows a need to integrate theoretical perspectives and look at divestment more holistically at the same time that divestment capabilities may be limited to specific modes. Additional implications for management research and practice are identified.

2.1 Introduction

Divestitures are strategic tools driven by and contributing to various organizational aspects of wealth creation and firm evolution (Hoskisson, Johnson, & Moesel, 1994; Moschieri & Mair, 2008). While conventional literature views divestitures as mirror image of mergers and acquisitions (hereafter M&A), contemporary research distinguishes divestiture from M&A as a strategic alternative or complement for restructuring a firm's governance, ownership and portfolio of businesses (e.g., Brauer, 2006; Mulherin & Boone, 2000; Villalonga & McGahan, 2005). Further, corporate divestiture is relatively understudied compared to M&A and it deserves more research attention (Brauer, 2006; Lee & Madhavan, 2010). The purpose of this paper is to review extant literature to identify opportunities for

additional divestment research. We focus on divestment antecedents and processes, as these steps provide the foundation for divestment performance where reviews already exist.

Three recent meta-analyses summarize divestment research results from different perspectives, including: 1) effect of various antecedents on the likelihood of firms undertaking divestiture (Kolev, 2016), 2) the performance outcomes of spin-offs (Veld & Veld-Merkoulova, 2009), and 3) the performance of divestitures in general (Lee & Madhavan, 2010). While the link between antecedents, process, and strategic outcomes (Dominguez, Galán-González, & Barroso, 2015; Pettigrew, Woodman, & Cameron, 2001) is well articulated by research in acquisition (e.g., Cording, Christmann, & King, 2008; Haspeslagh & Jemison, 1991; Birkinshaw, Bresman, & Hakanson, 2000), related reviews of divestment research are becoming dated (e.g., Brauer, 2006; Moschieri & Mair, 2008) and overlook progress in divestiture research (e.g., Alaix, 2014; Lee & Madhavan, 2010; Thywissen, 2015). For example, empirical studies find process factors, such as mode (Bergh, Johnson, & Dewitt, 2008; Bergh & Lim, 2008), internal controls (Hitt, Hoskisson, Johnson, & Moesel, 1996), or timing (Alexandridis, Mavrovitis, & Travlos, 2012; Love & Nohria, 2005), modify the link between antecedents and outcomes.

Similarly, a review of process and antecedents, their links and potential contributions to performance is largely missing. While Moschieri and Mair (2008) take a macro approach in comparing research on divestment performance from three areas of finance, management and organizational behavior, Brauer (2006) focuses on strategy research that examines corporate divestiture as a means of portfolio restructuring and associated processes. As a result, an opportunity exists for a systematic review to consolidate findings and theoretical implications on divestment antecedents and processes across different fields. Moreover,

almost a decade of research exists where scholars have pushed the boundaries of divestment research into new theoretical and methodological perspectives. For example, Shimizu (2007) employed prospect theory to explain firms' divestiture behavior, and Damaraju, Barney, and Makhija (2015) applied real options theory to study divesture process.

We address the need to present a cross-disciplinary and systematic review of empirical research on antecedents and process of corporate divestiture, and provide several contributions. First, we provided a better understanding of divestiture drivers and execution mechanisms by reviewing research on divestment antecedents and process. Second, by breaking up divestment process into decision-making, implementation, and mode, we enable better insights into different stages of divestment process. Third, synthesizing empirical findings and theoretical arguments on antecedents and process, we identify likely interactions between antecedents and process, and potential implications to divestiture performance, where additional research is needed. Finally, we provide managerial implications for divestment decisions.

2.2 Method

To collect a sample of empirical articles, we employed a computerized key-word search within major databases, including the ProQuest ABI/Inform Global and Web of Science, and among leading journals in areas of management, finance, accounting, and marketing searching for the key-terms of divest, divestment, divestiture, spin-off, sell-off and corporate unbundling in the title and abstract of the articles. We followed (Haleblian, Devers, McNamara, Carpenter, & Davison, 2009) in limiting our search to a narrow list of keywords. We restrained our review to empirical research published in journal articles following (Podsakoff, Mackenzie, Bachrach, & Podsakoff, 2005), as journals provide the most impactful source of validated knowledge. Also, to make sure our sample was comprehensive

in covering relevant works, we applied a manual backward ancestry approach combined with a forward looking snowball approach by tracing the works which respectively were cited by and cited in major review papers (i.e., Brauer, 2006; Moschieri & Mair, 2008) or foundational works (e.g., Lee & Madhavan, 2010; Weston, 1989). In doing so, we heavily relied on the Web of Science and Google Scholar. Next, we read identified papers and excluded those that were irrelevant to the context. For example, we removed research on academic spin-offs, or work force downsizing. Eventually, we coded articles and fit them into one or more categories of antecedents, process, outcome, and moderators. However, this review only includes research on divestment antecedents and processes.

2.3 Literature Review

Our review covers main sections related to parts of overall divestment process. In Figure 1, we separate the stages of divestment and associated research into (1) antecedents, (2) process, (3) performance, and (4) moderators. This paper reviews research on divestiture antecedents, process, outcomes, and moderators of outcomes. Table 1 lists research findings and theoretical perspectives on divestiture antecedents, as classified into environment, firm, and divested unit antecedents. Table 2 presents findings of research on divestiture process into (1) decision, (2) mode, and (3) implementations. Table 3 classifies research findings and applied theoretical perspectives on divestiture outcomes into performance outcomes—market and accounting—innovation, growth, and others. In the following sections, we explain research on each stage in more detail.

2.3.1 Antecedents

Our review suggests several commonly applied theoretical viewpoints examine divestiture antecedents. The most frequently applied theories in studying divestiture antecedents are portfolio, Transaction Cost Economy (TCE), Behavioral Theory of the Firm

(BTOF), Resource-Based View (RBV), agency theory, organizational learning, Resource Dependence Theory (RDT), and prospect theory. These perspectives relate to different categories of focus, and in Table 1, we categorize the antecedents into three major groups of environment, firm, and the divested unit. The table and the following summary within these categories also display sub-groups.

2.3.1.1 Environment

In studying the industry and task environment, research draws on transaction cost economics (TCE) (Williamson, 1979, 1981) pointing to the market versus internal costs of transactions as a main driver of corporate divestiture, and impression management (IM) theory declaring divestitures as an alternative when conventional impression management methods turn out ineffective in stigmatized industries (Durand & Vergne, 2015). Additionally, a firm's external general and task environments influence its strategic decisions and actions (Porter, 1980), and research has considered both aspects of a firm's environment.

In the general environment, fluctuations in *general economy*, volatility in the national currency *exchange rate*, and *instability of governmental policy* represent environmental uncertainty, influence associated costs of firms managing their portfolio of businesses (Alexander, 1991), and can drive portfolio restructuring (Mitchell & Mulherin, 1996) through divestitures and acquisitions (Hoskisson & Hitt, 1994; Markides, 1995). Similarly, industry *growth* opportunities and *standardization*, as well as media attacks in *stigmatized industries* have implications towards corporate divestiture through adjusting the task environment mechanisms and industrial competitive forces. Below we briefly explain each factor.

Firms may show different divestment behaviors when the *general economy* is in contraction or expansion, or under distinctive industrial forces and growth opportunities. Research contends conflicting positive (e.g., Hill & Hoskisson, 1987; Jones & Hill, 1988)

and negative (e.g., Belderbos & Zou, 2009; O'Brien & Folta, 2009) associations between general environment uncertainty and scope of corporate operations and businesses. Hamilton and Chow (1993) find general economy and industry growth as significant determinants negatively related to firms' decision to divest; whereas, Duhaime and Grant (1984) find general economic environment insignificant.

Stability of governmental regulatory acts on issues as tax, international trades—tariffs and quotas on import—or ownership, influence corporate performance and boundaries (Hill, 1995), and these conditions influence divestiture activities (Henisz & Delios, 2004). Instability in macro level policies and regulations brings about uncertainty, making decision making complicated for firms, the complexity that firms try to refrain from (Cyert & March, 1963), and can spur business exit through divestment. Research shows a higher chance of divestment in countries with highly instable legal and political systems (Hoskisson & Hitt, 1990). For example, Berry (2013) finds solid results that national policy instability is directly associated with U.S. multinational firms divesting their subsidiaries in other countries.

Growth potential implies higher future market demand, gain, performance improvement, and less intense competition, influencing firms' level of diversification and scope of operations (Chang, 1996). Attractions of the high growth markets may cause managers to postpone or give up their divestment decision in those markets. Benito (1997) finds an inverse relation between economic growth and divestments among Norwegian firms, and Berry (2013) shows that higher country growth significantly decreases the divestiture of low performing international units by their U.S. parent firms.

Standardization facilitates specialization and reduces entrance barriers, which in turn lowers the inter-firm transaction costs (Farrell & Saloner, 1985; Porter, 2008). Lower cost of

transaction is one of the main drivers of firms adopting market transaction over internalization (Williamson, 1979, 1981). For example, transaction costs can drive firms to divest their vertically expanded operations over the value chain (Baldwin, 2008). Additionally, Funk and Luo (2015) show that the emergence of industry standards resulted in vertical disintegration by firms to the extent that these "standard modules" increased the entrance of resource-constrained entrepreneurial firms and reduced the "transaction costs of having work done by multiple agents" (p: 59).

Firms in *stigmatized industries* respond to media attacks different from firms in non-stigmatized industries (Baum & McGahan, 2013). Therefore, they evade media coverage to avoid negative publicity (Hudson & Okhuysen, 2009), as any public response or advertising campaign worsens the reputation damage and likely be accompanied by even more hostile scrutiny (Desai, 2011). Hence, traditional impression management techniques in dealing with media attacks, such as denying, withdrawal, highlighting positive attributes, reframing, or accepting responsibility, covered in the literature on misconduct or wrongdoing among uncontested industries, do not apply to stigmatized industries (Durand & Vergne, 2015). Rather, divestment of operations in a stigmatized industry is an effective strategy fix the damaged firm's reputation (Love & Kraatz, 2009). Durand and Vergne (2015) show that media attacks on focal firms and their peers in stigmatized industries increase the likelihood of firms divesting their businesses in the tainted industries.

2.3.1.2 Firm governance

Governance is a significant determinant of corporate divestiture (e.g., Ahn & Walker, 2007; Kolev, 2016). Table 1 shows behavioral and agency are the dominant perspectives applied, but they offer distinct views studying corporate governance as an antecedent to divestiture. Unlike agency perspective considering managers' sub-optimal divestiture

decisions intentional consequences of conflict of interest between principles and agents (Eisenhardt, 1989), behavioral perspectives draw on personal cognitive capabilities and psychological features in attributing trivial decisions to managers' unintentionally bounded rationality and wrong perceptions of firm and its surroundings (Cyert & March, 1963).

An agency perspective views sub-optimal internal governance mainly driven by managers-principals conflict of interest as the major reason behind over-diversification, and focuses on effective factors in aligning the interests or enhancing the control. Such factors are managerial incentives, ownership, family ties and authorities. Even though associated with higher firm value (Bergh, 1995), divestitures are not costless to firms. Divestitures may signal lack of efficiency (Dranikoff, Koller, & Schneider, 2002), detach shared valuable resources (Semadeni & Cannella, 2011), and be costly to execute with possible inertia resisting divestiture. Managerial incentives (e.g., bonuses and ownership stakes) can enhance managers' risk tolerance and encourage them to undertake value-generating strategies like divestitures (Denis & Sarin, 1999). However, a recent stream of research extending agency theory into an under-explored area of divestitures among family firms (Chung & Luo, 2008; Feldman, Amit, & Villalonga, 2016; Praet, 2013), suggests a negative effect of family ownership and family CEOs on divestment.

Family owners strongly identify with the firm (Dyer & Whetten, 2006), inherit the ownership and management over generations (Hall & Nordqvist, 2008), and have a strong socioemotional wealth interest with the firm (Gómez-Mejía et al., 2007; Zellweger & Dehlen, 2011). Therefore, Feldman et al. (2016) argue that the associated total costs of divestitures are higher for family firms than non-family firms. As a result, family firms are expected to avoid divestments, unless they generate higher value than divestments by non-

family firms. Similarly, Praet (2013) finds an inverted U-shape relationship between family ownership and divestment activities. He argues that increase of family ownership stake up to a point attenuates the agency problem within the firm, aligning the interest of agents with owners, and increasing the likelihood of divestment activities. However, as the share of family ownership becomes large, the risk of entrenchment and adoption of non-economic goals arises, decreasing the likelihood of divestment activities. Similar to their argument about family ownership, Feldman et al. (2016) posit that *family CEOs* are less likely to undertake divestiture, but when they do, their divestment is more likely to generate higher value than those run by non-family firms. Overall, family ownership may represent an important context that needs to be controlled for by researchers studying acquisitions or divestment.

Behavioral perspective is concerned about cognitive and perceptional aspects of managers, in particular CEOs, in undertaking divestitures. It focuses on how CEOs identify with the firm, and in turn, their sense of responsibility, accountability and attachment to firm different operations and business units. Shorter *CEO tenure* drives corporate divestiture due to its anti-cognitive inertia effect (Shimizu & Hitt, 2005) or due to its association with newer CEOs' higher responsiveness to shareholders pressure for enhancing performance and lack of insight (Feldman, 2014). Combining behavioral theory with RBV, Feldman (2014) argues that new CEOs are more inclined to respond to shareholders request for higher value at the cost of firm valuable resources through overlooking embedded tacit knowledge in divested businesses.

2.3.1.3 Firm strategy

Meta-analysis (Kolev, 2016) argues that corporate strategy, reflected in various aspects of firm operations including its degree of diversification, number of acquisitions and

divestitures, is a main driver of divestiture activities. As Table 1 displays, research draws on portfolio, agency and TCE perspectives in studying the impact of firms' degree of diversification, global expansion and R&D investments, as representatives of corporate strategy, on corporate divestiture. Broadly pointing to firms adjusting their portfolio of businesses, the portfolio perspective, in conjunction with other sub-theoretical viewpoints, define the metrics firms use in deciding to retain or divest a business unit. For example, transaction cost economics (TCE) (Williamson, 1979, 1981) points to the market versus internal costs of transactions as a main driver of corporate divestiture, or resource-based view (RBV) (Barney, 1991) highlights the role of resources. For example, Bergh and Lawless (1998) couple portfolio theory with TCE to argue the costs of transactions underlie firm decisions to restructure their business portfolios at different degrees of diversifications and under distinctive levels of environmental uncertainty.

Over-diversification is source of inefficiency (Hoskisson & Turk, 1990), as it potentially drives complexities in resource allocation (Ravenscraft & Scherer, 1987), increased bureaucratic costs (Nayyar, 1992), and decreased information-processing capabilities (Berger & Ofek, 1995). Meta-analysis (Kolev, 2016) finds a positive relation between level of *diversification* and corporate divestitures. Drawing from the agency theory, Bergh et al. (2008) argue that managers employ different types of divestitures—sell- or spin-offs—to create value out of the 'information asymmetry' derived from diversification.

Relying upon the portfolio perspective, Berry (2010) finds positive impacts on divestiture for firms' *global expansion* and *R&D* investment intensity. As firms' cross-border and domestic operations compete over same limited resources, global firms tend to divest part of their domestic operations and transfer it into foreign countries where the cost of

production is lower and there are improved market opportunities (Blonigen, 2001). Berry (2010) argues that "lower cost of production and new market opportunities in foreign countries may provide a better use of existing firm resources and result in firms' divestment of their domestic activities to invest in other countries" (p: 380). Prior *R&D investments* provide firms with intertemporal economies of scope (Helfat & Eisenhardt, 2004) enabling firms to overcome their constrained capacities through; for example, divesting their underperforming businesses to exploit opportunities in new markets (Levinthal & Wu, 2010). Berry (2010) finds R&D expenditure intensity directly associated with firms pro-actively divesting their domestic operations towards their international growth and expansion strategies.

2.3.1.5 Firm resources

Gaining or reorganizing resources constitute a major determinant of corporate divestiture activity. For example, firms may spin-off a unit to place its resources under a more efficient management (Rose & Ito, 2005), or to use cash proceeds from sell-off to acquire or develop new resources (Borisova & Brown, 2013). As Table 1 shows, distinct theories address contribution of different types of resources to divestiture. Whereas RBV is mainly concerned about physical resources, organizational learning theory focuses on experience. Prior performance is a potential source of resources, which we discuss separately in a different section.

Divestiture e*xperience* often fits into the organizational learning perspective where developed knowledge and routines can facilitate divestitures (Bergh & Lim, 2008; Humphery-Jenner; Peruffo, Marchegiani, & Vicentini, 2018; Powell & Zhang, 2014) through improving subsequent restructuring decisions (Cyert & March, 1963; Donaldson, 1990), reducing the process costs, and lessening the risk of competency traps (Bergh & Lim, 2008).

Shimizu and Hitt (2005) provide an exception to the conventional approach to experience from the learning perspective. They draw on behavioral theory to view *experience* as a force against the cognitive inertia associated with divestiture of poorly performing acquired units. Behavioral theory also offers implications regarding *slack resources.* It argues that excess slack creates inertia in firms against initiating any major strategic change like divestiture of their poor performing units. Regardless, resource scarcity makes firms more willing to take riskier actions (Palmer & Wiseman, 1999; Shimizu, 2007; Teece, 1980), and meta-analysis (Kolev, 2016) finds an inverse association between *slack resource* and divestiture in accord with this view. Consistent with the consideration of slack resources, RBV is also applied to study resources as antecedents to divestitures, and asset sell-offs are a normal consequence of *asset redeployment* (Capron, Mitchell, & Swaminathan, 2001) where firms restructure resources.

2.3.1.6 Firm performance

Performance, both at firm and unit level, is the most commonly studied antecedent to divestiture (Kolev, 2016). Table 1 shows that portfolio, behavioral and prospect theories are the three perspectives most commonly used to examine firm level performance as driver of divestitures. As discussed earlier, portfolio theory relies on other theoretical perspectives or variables in defining the mechanisms underlying or factors triggering portfolio restructuring. One of such factors is the strategic intent. Decker and Mellewigt (2012) find low firm performance a significant predictor of defensive divestitures, but not a significant predictor for divestitures driven by strategic intent to change.

Meanwhile, behavioral theory (Cyert & March, 1963) argues that firms constantly compare their performance with their pre-set aspiration levels, and performance below aspiration triggers ‘problemistic’ search (Greve, 2003) and strategic change. Divestitures can

help to restore efficiency (Dranikoff et al., 2002), implying an inverse relation between firm performance and corporate divestiture (Ravenscraft & Scherer, 1987; Shimizu, 2007). Prospect theory (Kahneman & Tversky, 1979) refines the behavioral perspective by adding assumptions including the 'reference point' to individual perceptions and decision-making. It suggests that managers may use organizational-level characteristics, including performance, to set their reference points based on which they decide whether retain or divest a business unit. Higher firm performance enables managers can better "pass-off" the costs of an under-performing pre-acquired unit under a comprehensive account of overall firm favorable performance. This implies a direct association between firm performance and the likelihood of divesting under-preforming units as Hayward and Shimizu (2006) observe.

2.3.1.7 Unit (divested)

Unit characteristics also receive considerable attention as antecedents to divestiture comparable to firm and environment criteria (Moschieri & Mair, 2008). Portfolio, behavioral and prospect theories are common perspectives and they generally focus on *unit performance* and *size* to predict corporate portfolio restructuring. RBV, resource dependence (Pfeffer & Salancik, 1978), and real option theories are alternate perspectives that stress *unit relatedness* and redeployment of resources. Meanwhile, behavioral perspectives interweave psychology and cognition with economic factors, and prospect theory further accounts for individuals risk preferences. RBV generally refers to benefits of individual units' resources to entire firm, and RDT adds to RBV by viewing units' beneficial resources as sources of corporate level *interdependence* and *power* imbalance. Finally, real options theory is concerned with reserving a firm's the future right of using beneficial resources under uncertainty.

Poor unit *performance* is the major driver of corporate divestiture (Berry, 2013; Brauer, 2006; Duhaime & Grant, 1984; Hamilton & Chow, 1993; Kolev, 2016; Markides,

1992; Shimizu & Hitt, 2005; Ravenscraft & Scherer, 1991). Portfolio perspective indicates that managers constantly reevaluate their portfolio of businesses and drop relatively under-performing units while retaining those with satisfactory performance (Dranikoff et al., 2002; Hoskisson & Turk, 1990). Behavioral theory (Cyert & March, 1963) adds to portfolio perspective by including the aspiration levels of performance. Research from this standpoint implies that managers tend to de-commit to units failing to reach aspired performance, and announces structural inertia as a drive force underlying the inverse performance-divestiture relation above the aspiration performance levels (Shimizu & Hitt, 2005). Performance beyond the aspiration levels brings about inertia against change and divestiture (Greve, 2003). Using prospect theory (Tversky & Kahneman, 1992), Shimizu (2007) takes a step further and adds a critical point to the aspiration reference level in explaining managerial risk taking behavior. He argues that firms' divestiture behavior varies based on managers' risk preferences at different levels of unit performance. When unit performance is moderately low, managers show higher risk tolerance and less likely to divest underperforming units; however, when low performance passes the threat point, managers become more risk averse and more likely to divest. Wang and Jensen (2019) extend the field by viewing unit performance within a firm's portfolio of businesses by considering corporate identity. They argue that low performance units within a portfolio of businesses in a firm that are high performing are considered inconsistent to the overall firm identity, and thus, more likely to be divested to restore a coherent organizational identity. Moreover, drawing from the resource dependence theory Xia, Yu, and Lin (2019) argue that sub-units with peripheral operations, sales, and market to the rest of the portfolio of businesses within a larger firm are relatively less powerful, and more likely to be divested. A related perspective draws on

portfolio considerations with Schlingemann, Stulz, and Walkling (2002) suggesting *liquidity* of a unit is the main determinant of divestment. They find that, among refocusing firms, liquidity of the assets outweighs unit performance in divestment decisions. Additionally, firms may sell assets to raise funds to invest in research and development (Borisova & Brown, 2013).

Unit relatedness is another unit characteristic influencing divestiture. In general, research shows that firms are less likely to divest related businesses (Brauer, 2006; Chang, 1996; Chang & Singh, 1999; Duhaime & Grant, 1984; Moschieri & Mair, 2008; Xia & Li, 2013; Zuckerman, 2000). However, it has different implications on corporate divestitures from the eyes of RDT and RBV theories. On one hand, RDT views relatedness as a source of parent-unit interdependence (Haunschild, 1993) negatively associated with the likelihood of unit divestiture (Xia & Li, 2013). Still, firms' excessive dependence on a given business unit may result in a power imbalance, increasing the risk of units' opportunistic behavior against their parents, and consequently, raising the hazard of divestiture (Xia & Li, 2013). On the other hand, RBV views related units as sources of tacit knowledge and competitive advantage, but unrelated businesses as risk and revenue hedges (Bergh et al., 2008). This suggests an inverse association between relatedness and divestiture similar to that proposed by RDT. However, another stream of reasoning within RBV, argues that the intra-firm redeployability of related businesses' resources reduces the economic sunk costs of investments, which in turn facilitates the divestiture of related units (Lieberman, Lee, & Folta, 2016).

With respect to theory, as Table 1 illustrates, behavioral theory of the firm is the only theory taking into account the effect of *unit size* on unit divestiture; even though, unit *size* is

one of the most commonly tested factors in divestiture studies (Moschieri & Mair, 2008). In the behavioral theory of the firm, there is a structural inertia against divestiture of large units as divesting large units is more complex (Hitt, Harrison, & Ireland, 2001) and riskier in terms of material gains or losses (Bergh and Sharp 2015). Moreover, larger units are less liquid (Shleifer & Vishny, 1992), have higher inter-unit resource spillovers, and receive larger investments over the time (Shimizu & Hitt, 2005). Next, we turn to review research on divestment processes.

2.3.2 Divestiture Processes

Success or failure of strategies depends on how they are structured and implemented (Bergh et al., 2008), implying that process mediates between antecedents and performance of strategic actions. Yet, research remarkably understudies the process of divestiture (Brauer, 2006; Moschieri, 2011). Still, there is less research in this area, so our review includes both qualitative empirical studies (e.g., multiple case studies), as inductive studies dominate the research on decision making and implementation processes. We found only two empirical studies (Elfenbein & Knot, 2015; Elfenbein, Knott, & Croson, 2017) in decision-making and two under implementation(Cheyre, Klepper, & Veloso, 2014); Gopinath & Becker, 2000). Regardless, research views divestment as a complex strategic process that spans time and organization levels (e.g., Brauer, Mammen, & Luger, 2014), and it distinguishes between divestiture decisions and implementation processes (Dean & Sharfman, 1996; see Thywisson, 2015 for a review on divestiture decision making process). In our review, research on divestment processes separates into the three categories of decision-making, mode of divestiture, and implementation, see Table 2.

2.3.2.1 Decision making process

We recognize two themes of research in decision-making process. The first, we label *decision maker,* is associated with the mastermind authority behind the divestiture decision in corporates. A second factor relates to decision *timing.* The former stream draws on the contingency perspective to study determinants of a *decision maker*, or draws on the evolutionary and internal ecology perspectives to study the role of internal selection environment and process on decision making within firms. However, the second stream mainly draws on the behavioral perspective studying decision process duration and timeliness.

Studying divestiture *decision makers*, (Ghertman, 1988) suggests a hierarchical top-dawn pattern among multinational firms based on which these firms manage and restructure their portfolio of international subsidiaries. However, Burgelman (1994, 1996), drawing from organizational internal ecology perspective, stresses on the role of internal selection environment of firms, dominated by mid-level managers, in decision-making process. From an evolutionary perspective, Burgelman argues that internal selection processes, driving a large proportion of corporate transformation, are not centrally planned. The contrasting perspectives may be resolved using a contingency perspective from Brauer's (2009) typology of different types of divestitures based on corporate and unit manager involvement in divestiture decision making and execution process. For example, spin-offs are driven by external sources (shareholders) and represent high degree of both corporate and unit manager involvement, and entrepreneurial spinouts are internally driven divestments by unit managers with low corporate manager involvement.

With respect to the *timing* of divestiture decisions, Nees (1983), studying the speed of decision process, finds that lengthy decision process deteriorates employee morale and faith

in the divestment decision. She also finds that divestiture experience can accelerate the speed by breaking the resistance over the decision process. Elfenbein and Knott (2015) outline managerial biases underlie the considerable delay in making timely divestment decisions within US banking industry. Additionally, Elfenbein et al. (2017) finds that managerial incentives, in particular, equity stakes, can delay divestment decisions by making managers overly optimistic.

2.3.2.2 Mode of divestiture

Following the decision to divest, managers choose a divestment mode; see Appendix for description of different modes. Duhaime and Schwenk (1985) argues that effective decision-making drives the right choice of divestiture mode and successful implementation. In our review, we distinguish between research on alternative modes (e.g., spin-off versus sell-off) of divestiture, and sequential divestment. An agency perspective, mainly driven by either information asymmetry or conflict of interest between parties, is the most popular theoretical framework among studies of the divestiture mode.

Studies examining the choice of divestiture mode between *spin-off versus sell-offs,* draw on the conflict of interests and information asymmetry views of the agency perspective, as well as organizational learning theory. Bergh et al. (2008) find higher corporate degree of diversification and unit un-relatedness to firm core operations associate with more sell-offs, as managers try to turn information asymmetry into financial benefit. Bergh and Sharp (2015) find that large outside stockholder ownership and unit size are directly associated with the more choice of spin-off than sell-offs. For example, spin-offs, in contrast to sell-offs, do not generate cash proceeds for a firm. As a result, divesting larger units is riskier, making managers more interested to sell-off small units. Meanwhile, Bergh and Lim (2008) find that contemporaneous experience is associated with more spin-off decisions, while distant and

accumulated repetitive experience leads to more of sell-offs, findings in line with the improvisation and absorptive capacity learning views, respectively. Hildebrandt et al. (2018) develop a comprehensive fuzzy model and conjecture that, like in every other corporate restructuring action, the design and success of corporate divestitures are contingent on a set of internal and external factors, spanning from firm performance and degree of diversification to environmental uncertainty and jolt.

Another stream of research examines *sequential* divestment. Divesting in stages enables a firm to protect against market underpricing or uncertainty. For example, Reuer and Shen (2004) find that firms can use staged divestiture through IPOs to overcome market undervaluation driven by information asymmetry. Information asymmetry is a source of risk influencing strategic decision-making (Cohen & Dean, 2005), same as environmental uncertainty. Accounting for uncertainty, Damaraju et al. (2015) find staged divestitures through spin-offs or carve-outs are least likely under high environmental uncertainty. Drawing from the real options theory, they argue that environmental uncertainty may result in underpricing of the unit true value, leading to "costly-to-reverse losses", which in turn decreases the real option value of staged divestiture compared to that of non-divestiture or complete divestiture.

2.3.2.3 Implementation process

Research on divestiture implementation process examines what follows the decision to divest. For example, a negative atmosphere surrounding divestiture can arise unit managers' resistance against corporate decision to divest (Moschieri & Mair, 2012). Research in this area applies a mix of research methods with most using inductive qualitative methods, and no clear theoretical perspective with agency, behavioral, organizational identity and portfolio perspectives drawn upon. Reviewed research summarized in Table 2 is grouped

into the three sub-sections of managerial involvement, communication and sense-giving, and parenting.

Managerial involvement focuses on how different organizational levels take part in divestment implementation. Nees (1981) finds corporate managers need to involve unit managers in divestiture implementation process. When corporate managers make divestiture decisions without involving divisional managers, divisional managers are more likely to resist separation from the parent due to perceived ambiguity in the future of the unit. Similarly, Moschieri (2011) finds that sense of opportunity, created through unit's independence and managerial involvement creates higher unit performance through enhancing unit managers' commitment, motivation, and identification. This is closely related to prior research findings on the positive impact of sense-giving and communications on corporate restructuring (Balogun & Johnson, 2004). However, divisional manager effects may not be universal, and Brauer (2009) develops a typology of divestitures explaining the degree of unit/corporate managerial levels under different contingencies and divestiture features like distinct type of divestitures.

Another stream of research investigates the *communication* and *sense-giving* processes over divestiture implementation building upon behavioral (i.e., Gopinath & Becker, 2000) and identity (i.e., Corley & Gioia, 2004) perspectives. Gopinath and Becker (2000) find that well communicating divestiture insights and subsequent actions with unit managers and employees enhances their perceptions of procedural justice regarding the divestment decision and its consequent layoffs. Perception of procedural justice, in turn, raises trust and commitment, which are critical to divestiture success. Corley and Gioia (2004) argue for the necessity of managerial sense-giving actions through better

communicating divestiture underlying logics, insights, and perspectives to alleviate the tensions arisen by change and identity ambiguities as part of divestiture implementation process.

The remaining category—*parenting*—examines the relationship between divested unit and parent. Arguing that divestitures are recurrent and multifaceted programs that should not be studies in isolation, Moschieri and Mair (2012) extends process implementation considerations to the parent and divested unit relationship. From a portfolio perspective, they find that retaining a relationship with the divested unit enables former parent firms to more efficiently manage its portfolio of businesses. While consistent with a real option perspective, such relationship with a formerly divested unit may provide the parent firm with an option to buy the divested unit back. This may have implications towards creation of sense of opportunity (Moschieri & Mair, 2011). For example, retaining a parent relationship post-divestiture can make unit managers more hopeful or feel a higher sense of future opportunity. Similarily, Cheyre et al. (2014) focus on the source of employees for a divested unit, as they cannot hire all employees required from the parent firm. Assessing and recruiting new employees are important tasks over the divestiture process. This is important in spin offs, or in cases of parents' desiring for keeping their relationship with divested unit post-sell-off (Moschieri & Mair, 2012), parents may involve in design and execution of divested units' employment process. In summary, the process of divestment remains largely unexplored with available research lacks a clear theoretical perspective and often provides conflicting findings.

2.3.3 Outcomes

To the extent that corporations commonly use divestitures as a strategic tool to restructure their business portfolios (Bowman & Singh, 1993), research calls for further study

of divestitures consequences to firms' operation and survival (Lee & Madhavan, 2010). As Table 3 shows, among a variety of outcomes, performance consequences—i.e., market and accounting—are the most commonly studied ones. However, research examining firm growth and other divestment outcomes, including innovation and productivity, exist and are summarized separately.

2.3.3.1 Market performance

Market performance measures market valuation of a firm and its securities, reflecting investors' expectations of the post-divestment future of the firm. Implicit to investors' forecast of the future is their perceptions of a focal divestment underlying drivers and process. For example, CEO compensation, an antecedent to divestment decision, can also be a performance moderator by signaling the post-divestment wellbeing of a firm in the eye of investors (e.g., Feng, Nandy, & Tian, 2015). Likewise, Bergh et al. (2008) finds that divestiture antecedents, mode, and performance are interrelated. This interrelatedness suggests potential moderating effects for antecedents and process on performance.

As Table 3 shows, market valuation and average return to stockholders, along with instantaneous and long-term abnormal stock returns at divestment announcement are the most common measures of market performance in the literature. The theoretical perspectives applied are diverse with research drawing on signaling, agency, learning, RBV, RDT, TCE, BTOF, and institutional, theoretical perspectives to explain consequences and moderators of performance to divestitures. Signaling perspective lies at the foundation of the reasoning that other theoretical perspectives apply to explain the effects of divestment on the market valuation of firms, because at the presence of asymmetric distribution of information in the market, investors tend to rely on signals from the characteristics of the firms and deals (Peruffo, Perri, & Oriani, 2014). For example, Finlay, Marshall, and McColgan (2018) argue

and find that financial *distress* at macro, industry, and firm levels, differently moderates divestment performance because investors interpret it distinctly at each level. In the following subsections, we summarize research on the different theories used to examine divestment market performance beginning with agency theory.

2.3.3.1.1 Agency theory

From an agency perspective, divestitures will generally lead to positive *market performance* (Berger & Ofek, 1995) by aligning the interests of managers and owners (Denning, 1988), and reducing the information asymmetry between them (Sanders & Boivie, 2004). Research from the agency perspectives most commonly considers *corporate governance*, including ownership structure and board composition, together with *managerial equity incentives* as moderators of divestiture performance. For example, Feng et al., (2015) finds that equity incentives to CEOs prior to spin-offs are associated with higher market return at announcement and in long-term. They argue that equity incentives to managers align their interests with that of shareholders and signals the quality of divestment decision.

Corporate governance reflected in firms' board and ownership structures is another moderator of performance. Governance moderates the performance by diminishing the agency conflicts and spurring value creating divestment decisions, or facilitating better parenting post-divestment. For example, Chesbrough (2003) and Semadeni and Cannella (2011) found that continued parent's ownership and board representing in the spun-off unit beyond a certain degree negatively effects unit's market performance. Chesbrough (2003) finds parents' active presence in the spun-off unit management restrains units' search scope and creativity, however, presence of venture capitalists in the board mitigates the negative effect of parent presence. In line with Chesbrough (2003) findings of positive performance consequences for outsiders in board, Chen and Feldman (2018) argue and find evidence that

external hedge fund investors can fulfill the role of strong external governance by inducing managers to make value crating divestment decisions. In general, larger ownership stakes, including blockholders or family owners, may address the conventional agency problem between managers and owners. However, unbalanced ownership concentration could cause a contemporarily highlighted conflict of interest among investors referred as agency type 2 problem. For example, Peruffo et al. (2014) argues that presence of family owners could exacerbate the negative effect of information asymmetry among investors by increasing the risk of family owners' opportunistic behavior against others.

2.3.3.1.2 Institutional theory

Institutional theory implies that at the presence of information asymmetry, deal characteristics may signal the market whether a focal divestment is driven by managers' independent strategic intents, or just by mimetic isomorphism. Only one study draws from the institutional perspective to explore performance consequences of divestments (Brauer & Wiersema, 2012). They find a U-shaped relation between divestment *timing* over a wave and market response, arguing that divestments in the middle of the wave signals managers' blindly imitating the industry. Additionally, they find *industry munificence* as another moderator, making the U-shape relation even more pronounced.

2.3.3.1.3 Behavioral theory of the firm

Research from a behavioral perspective links managers' cognitive and psychological characteristics to investors' perceptions to explain divestment performance consequences. In general, behavioral theory of the firm conjectures that managers divest units with performance below aspiration, signaling a brighter prospect, accompanied by market positive response (Feldman, 2014; Markides, 1992; Zuckerman, 2000). Golder, Markovitch, and O'Brien (2018) finds a negative moderating effect for pre-divestiture *relative performance* on

market reaction to divestment. They argue that low and high *relative performance*, respectively signal whether divestments are unlocking strategic resources towards growth, or are defensive to issues unknown to public (Golder et al., 2017). Huang (2014) finds *CEOs' background* as another moderator of divestment performance. Drawing from the behavioral theory, it argues that CEOs are less attached and more likely to divest units in which they have no or less expertise. Divesting such units signals increased efficiency as it saves more managerial attention for fields in which they are more proficient.

2.3.3.1.4 Learning theory

Organizational learning theory implies that routines and knowledge developed from accumulated experience can improve the quality of corporate practices (Levitt & March, 1988), including decision-making practices (Cyert & March, 1963; Haleblian *et al.*, 2006). Hence, *experience* can enhance divestiture performance by boosting individual performance, as well as reducing process costs, risk of competency traps, and anxiety, over the stages of identification, transaction timing and negotiations, detachment, and reallocation of released resources (Bergh & Lim, 2008). In particular, Humphery et al. (2014) find a positive link between divestment *experience* and market response. They argue that *experience* signals managerial restructuring capabilities, including due diligence, unit choice, timing, and pricing of the deal. In contrast with learning perspective, Brauer and Schimmer (2010) does not find experience significant in predicting divestiture performance at the announcement. They rather find the *design of divestiture programs*, in particular, the time interval between individual divestitures, is a significant determinant of market response. Drawing from the "principle of internal consistency" and "strategic relevance of program", they argue that investors perceive series of divestitures in a program more aligned with each other in accomplishing corporate strategies and more impactful on corporate operations, hence,

respond positively. This is consistent with Hite and Owers (1983) finding the strategic intent behind a divestiture is the major predictor of market return at announcement. Investors react positively to proactive divestitures announced as part of firms' larger acquisition or specialization strategies, whereas, respond negatively to passive divestitures. Bingham et al. (2015) extends the positive effect of *experience* across all restructuring activities, arguing that corporations can learn concurrently from their distinct restructuring practices, implying firms' improved evolutionary fitness, valued by investors.

2.3.3.1.5 RBV

Resource-based view (RBV) conjectures that firms can use their existing resources (Barney, 199) and restructure their resource combinations (Helfat et al., 2007; Teece, Pisano, & Shuen, 1997) to gain competitive advantage. Divestments can unlock value by freeing up financial and managerial resources to reinvest in firms' future profitability, implying investors' positive response to divestments. Yet, the more private settings surrounding a divestment deal raises the information asymmetry, suggesting signaling factors working as performance moderators.

Prior performance acts as a moderator of performance by signaling the incentives behind divestment as well as corporations' capabilities to reinvest the released resources. For example, Vidal and Mitchell (2018) find that pre-divestment high performance enable firms to better reinvest divestment proceeds in assets and growth; whereas, low performance increases the risk of closure or takeover. *Cross-border divestments* can moderate marker return by; first, allowing sellers to access international financial resources, and to avoid poor domestic economic resources. Second, *cross-border divestments* provide sellers with larger bargaining power by offering foreign acquirers access to their local market at the presence of

larger international competing bidders (Borisova, John, & Salotti, 2013). Future studies can further focus to investigate performance consequences of buying divested assets to acquirers.

2.3.3.1.6 TCE

Transaction cost economics (TCE) focuses on the post-divestment—mainly spin-off—parent-unit relationships to explain the performance consequences various hierarchy-market structures. TCE assumes a positive market reaction as spin-offs believed to enhance performance through units' increased contract efficiency, new partners, and autonomy from parents' restraining bureaucracy (Hite & Owers, 1983; Makhija, 2004). Meanwhile, continued post spin-off parent-unit relations can reduce costs of their mutual transactions. Research finds parent control over the spun-off unit in forms of *ownership stake* and *board representation* as moderators of performance. Moderate level of parent ownership and board representative in the spun-off units positively influence both parties' stuck return, nonetheless, investors perceive parents' involvement beyond a certain level as too much that obstructs units progress, and separate identity (Semadeni & Cannella, 2011). Feldman (2016) finds presence of dual directors in the spun-off unit's board creates conflict of interest, leading to dual directors exercising their power at the cost of units and to the benefit of parents.

2.3.3.1.7 RDT

RDT centers on the concepts of dependence and power imbalance that can rise stronger partners' opportunistic behavior against the weaker sides (Casciaro & Piskorski, 2005; Pfeffer & Salancik, 1978). Therefore, RDT complements TCE's view on the benefits of parents' board representation and ownership in spun-off units, by adding the concept of *dependence* as another moderator. Feldman (2015) finds that in the presence of power

imbalance—i.e., unit dependence to former parent—dual directors in the spun-off units tend to practice their power against the unit, in the interests of former parent.

2.3.3.2 Accounting performance

Accounting performance measures ex-post operational performance, as reflected in financial statements. As Table 3 displays, research most commonly draws from BTOF, RBV, organizational learning, and agency theories to study consequences of divestments to firms' accounting performance, including Earning per Share (EPS), Net Margin (NM), Return on Assets (ROA), and operating income.

2.3.3.2.1 Agency theory

Control and incentives are to major mechanisms to tackle the agency issue (Eisenhardt, 1989). Divestitures can impose more discipline on managers by increasing the risk of takeover, thereby enforcing hard work and efficient resource allocation by managers to improve the performance as a shield against loss of control (Chemmanur & Yan, 2004). However, research shows that in long term, the interest alignment effect of *incentives* in CEO compensations are more effective than strong governance or disciplining to keep firm performance high post-divestment (Feng et al., 2015). Additionally, research finds that *financial distress*, *relative size*, and *payout of divestment proceeds* positively moderate corporations' performance post-divestment (YM et al., 2013). Financially distressed sellers can use proceeds from divestments to pay off their debt or to address financial constraints. Larger divestment relative size is associated with higher performance as self-serving managers may empire build to serve their personal ambitions or use larger size to secure their employment (Amihud & Lev, 1981). Payout of divestment proceeds restrains manager's access to excess cash, reducing the chance of suboptimal value destroying investment (Jensen & Meckling, 1976). Alternatively, Rubera and Tellis (2014) find that the *strategic*

intent underlying divestitures fully mediate the effect of divestment on performance post-divestiture. This finding is in line with research finding poor support for the agency theory (e.g., Dalton *et al.*, 2003).

2.3.3.2.2 Learning theory

From the learning perspective, e*xperience*, in general, improves future divestment performance by enhancing decision making, reducing the costs, and lowering the odds of competency traps over asset identification, asset transaction, asset separation, and asset reallocation stages of divestiture process (Berg & Lim, 2008; Brauer et al., 2014). Brauer et al. (2014) distinguishes between different *types of experience*, and finds that experiential learning, vicarious learning, and transferring learning, positively moderate divestment performance. However, heterogeneous divestiture experience raises causal ambiguity, leading to incorrect generalization of experience, detrimental to future divestment performance. Further, Bergh et al., (2008) examine the moderating effect of *experience time horizon* on performance, and find that the positive effect of experience cumulates over time for sell-offs, nevertheless, for spin-offs, only recent experience counts. They draw from the absorptive capacity and improvisational learning perspectives to explain their findings. They argue that spin-offs' idiosyncratic and rare nature does not allow for learning through repetition and accumulation of explicit knowledge into routines applicable to the learning curve. Therefore, consistent with the improvisational learning where learning and experience take place simultaneously (Miner et al., 2001), only contemporaneous experience influence future divestment performance. In contrast, sell-offs happen more repetitively with more standardized stages, allowing for over the time knowledge accumulation and absorptive capacity buildup.

2.3.3.2.3 RBV

RBV theorizes that divestitures can improve performance by helping firms to gain competitive advantage through improving the fitness and complementarity among remaining assets, as well as releasing resources to reinvest into corporations' future prosperity (Bergh, 1995; Penrose, 1959). This suggests the characteristics of released resources and the strategic planning for reusing them are substantial to determine performance consequences. Love and Nohria (2005) find pre-divestment levels of *slack* and *performance,* along with divestiture *relative size,* moderate the performance. Divestitures enable more efficient reinvestment of released absorbed *slack,* and the *relative size* of divestiture ensures that released resources are large enough for reinvestment and improving the asset fit within the firm. Moreover, high *performance* can ensure that divestitures are proactive versus passive, and that managers have strategically planned how to use released resources. Additionally, Zschoche (2016) argues and finds macro environment, in particular, favorable *labor costs*, facilitates efficiency gains, which in turn enhances performance and mitigates potential negative effects of restructuring.

2.3.3.2.4 Behavioral theory of the firm

In addition, Feldman 2014 finds *CEO tenure* as a moderator of operational performance following divestiture. Drawing from the behavioral perspective, she argues that newer CEOs are more concerned with meeting the performance aspirations to make an impression, and at the same time, less attached to older businesses as sources of tacit knowledge and organizational routines. Therefore, newer CEOs are more likely to ignore the value of older businesses and make suboptimal divestment decisions with poor performance consequences.

2.3.3.3 Growth

Research mainly applies resource-base, agency, organizational learning, and transaction costs perspectives to study divestiture growth consequences to divested units and former parents. Theories' implications to divestiture growth outcomes are similar to those for divestiture performance. From an agency perspective; for example, in cases of technology spin-offs, risk averse incumbent managers (Eisenhardt, 1989) might scruple to invest in spun-off units' explorations, impeding units' growth. In line with the agency perspective, Chesbrough (2003) submits that parents' ownership stakes or presence of dual directors in the board of technology spun-offs is counterproductive to units' growth; whereas, presence of venture capitals (VCs) in the board mitigates the agency issue by partially fulfilling the strong governance. This is consistent with RDT's implication to the effect of dependence and power on resource-exchange relationship, and TCE's focus on balancing the costs of hierarchy and market transactions.

From transaction cost perspective, Rose and Ito (2005) find *macro environment*—i.e., national culture—and *relatedness* moderate the relation between divestment type and divested units' growth. They argue that unrelated units are less considered a competing threat to their parents; hence, less bounded to parental control in long term. This finding is consistent with RDT implication about the effect of dependence and power on resource-exchange relationship. From organizational learning perspective, however, Sapienza, Parhankangas, and Autio (2004) find an inverted U-shape relation between unit relatedness and spun-off unit growth. They argue that moderate level of knowledge similarity maximizes learning capacity, which in turn increases the growth.

Vidal and Mitchell (2018) studies the growth consequences of divestiture to the former parent from the resource-based perspective. They find corporations' performance and

financial wellbeing moderates divestment growth outcomes through providing high performance firms with better opportunities to reinvest the resources in support of their dynamic capabilities and future growth.

2.3.3.4 Innovation

Divestitures can improve organizational innovativeness (Moschieri & Mair, 2008). For example, over-diversified firms can employ divestitures to restore their strategic control, which may be lost due to excessive portfolio restructuring activities (Hitt et al., 1996). Moreover, the intangible nature and uncertainty of R&D projects raise information asymmetry, which in turns increase the cost of external financing for R&D projects, and hence, encouraging managers to use proceeds from divestitures as a source of internal funding (Borisova & Brown, 2013). Alternatively, firms can form spin-offs as incubators of new projects (Christensen, 1997) to develop a new technology or enter a new market (Parhankangas & Arenius, 2003). However, Dahlstrand (1997) does not find any significant difference in terms of innovativeness and growth between spin-offs and non-spin-offs among Swedish new technology start-ups, suggesting the potential for confounding influential factors on innovation outcomes. For instance, Chesbrough and Rosenbloom (2002) argue that *business model* mediates the effect of divestiture on innovation, determining the success or failure of a new technology.

Extant research draws from RBV, RDT, and real option theory (ROT), to explain innovation consequences of portfolio restructuring through divestiture. RVB, RDT, and TCE, all agree on the pivotal effect of resources and resource exchange behavior of firms involved in divestitures on organizational innovation outcomes, but approach it from different angels. RBV concentrates on how divestitures can provide resources to be reinvested in R&D projects, or in cases of spin-offs, comfort complementary resource sharing between the

parent and spun-off unit. RDT (Pfeffer & Salanick, 1978), however, pays more attention to the parent-unit resource-exchanging relationship and behavior, post-spin-off, and TCE (Williamson, 1979) hinges on the cost efficiency of resource transfer under post-spin-off new organizational structure.

Case studying a spin-off, Moschieri and Mair (2011) provide implications to multiple theoretical perspectives, including RBV, RDT, TCE, and ROT. It indicates that the new organizational structure post-spin-off can create synergy by facilitating the inter-firm resource transfer and reducing transaction costs. In the meantime, parent supports the spun-off unit to establish, build up its capabilities, and become innovative. Over the time, the resource exchange behavior of firms may change; for example, power imbalance may arise the opportunist behavior by one side. If the power imbalance weighs in favor of the spun-off unit, then the parent may exercise its option to reacquire or fully divest the unit. In a later study, Moschieri and Mair (2017) find *parenting*—i.e., parent-unit relationship—moderates the divestment-innovation relation. They also find further support for the real option viewpoint, showing that new product and network development by the unit drive re-acquisition and full divestment, respectively.

2.3.3.5 Productivity

Recently, research shifted focus from divestitures' performance outcomes to productivity outcomes in order to explain the underlying sources and mechanisms of value generation in divestments. Chemmanur et al. (2014) find that spin-offs are associated with enhanced productivity. They argue for strong evidence for agency perspective as they find change of governance and control post restructuring reinforces managerial discipline and improves capital allocation efficiency. They also find week evidence for resource-based justification as increased focus and capital expenditures on and among remaining units

partially drive productivity rise. In line with resource-based perspective, Engel and Procher (2013) argue and find that cost of protecting knowledge intensive properties, make foreign divestments and relocation of operations to major home sites associated with substantially increased productivity in high tech industries. This complements Berry's (2010) finding that firm tend to divest and relocate their local operations abroad in pursuit of favorable labor cost and manufacturing factors.

2.3.3.6 Acquisition performance

One stream of research from the organization learning perspective concentrates on consequences of divestiture experience to corporations' future acquisition performance. Prior divestiture experience can help to improve strategic flexibility and restructuring learnings, enabling firms to acquire riskier targets and pay less premiums (Bertrand et al., 2014). Doan, Sahib, and Witteloostuijn (2018) argue that there is spillover between acquisitions and divestitures, and that prior divestitures facilitate both experiential learning and vicarious learning over restructuring procedures applicable to future acquisition practices. They find *experience frequency* and acquisition *size* positively moderate the effect of divestiture experience on acquisition performance. They argue that *experience frequency* builds up absorptive capacity in firms and larger *size* facilitates knowledge sharing interactions and exposure to various perspectives within individuals as reservoir of knowledge.

2.3.3.7 CEO Incentive Alignment

Strategic change calls for managerial efforts and risk taking, influencing CEO compensations (Carpenter, 2000). Drawing from the agency perspective, Pathak et al. (2014) find that boards compensate CEOs for the risk proportional to the size of refocusing divestiture programs, and that *prior performance*, *board independence*, and *industry dynamism* positively moderate the refocusing-compensation relation. They argue that boards

view *prior performance* as a signal to CEOs' capability and future performance, that industry dynamism is a source of uncertainty and volatility, and that *independent boards* prefer refocusing as a less risky profit maximizing strategy against diversification. Moreover, Feldman (2015) argues and find that spin-offs cast more clarifications about the operations and performance of the separated unit, and therefore, better align the compensation of spun-off unit managers with the performance, the findings consistent with the agency perspective.

2.4 Discussion

Divestitures are a strategic restructuring tool and a combination of antecedents, decisions, and process implementation (Duhaime & Schwenk, 1985; Thywissen, 2015) helps to determine their outcomes. Yet, research largely overlooks the divestiture process, as well as its links with antecedents and performance. Our review shows research studies diverse sets of environmental, corporate and unit level antecedents as drivers of divestment decision. Divestiture process research examines decision-making, mode, and implementation. However, divestment antecedents set the foundation for a successful divestiture, and there is a need for divestment antecedents and process display harmony.

2.4.1 Research Implications

Our review finds agency, behavioral theory of the firm, and learning are the most common perspectives applied to divestment antecedents and process studies. There is less research applying organizational learning, but it suggests that various types of prior experience fit distinct modes of divestitures (Bergh & Lim, 2008). Along with recognition that divestment occurs in stages, our review suggests theory generally focuses on only parts of the process. This suggests a need for research on divestment that integrates multiple perspectives, and distinct capabilities for different divestment modes, as well as relationships between divestiture antecedents and process. For example, unit performance may have

different implications to different modes of divestitures, such that higher unit performance may drive equity carve-outs in which firms sell only part of a business unit through IPOs, or spin-offs. Additionally, research largely relies on agency theory to study divestiture antecedents among family firms. This represents an opening for studying managerial incentives (e.g., ownership equity) and divestiture behavior across different firm types.

Another opportunity would integrate agency and behavioral perspectives. Studies drawing on agency theory mainly integrate corporate governance and strategy with divestiture mode and implementation process (Bergh et al., 2008; Bergh & Sharp, 2015; Moschieri, 2011). This stream of research implies that firm strategy (e.g., diversification), resource-based information asymmetry (e.g., driven by intangible resources), and governance, are sources of agency problems that managers can address through selecting appropriate mode, including type and sequences, granting unit independence, and involving divisional managers over the divestiture process. Meanwhile, behavioral theory of the firm examines implementation and decision-making processes of divestitures driven by performance, governance, and strategy, as underlying antecedents (Elfenbein & Knott, 2015; Elfenbein et al., 2017; Gopinath & Becker, 2000). This stream of research points to imbalanced managerial equity stake and the stigma inherent to divestments as major sources of upper echelon's cognitive inertia against divestiture and as central obstacles in the divestment process (mainly decision-making), negatively affecting divestiture effectiveness and timeliness. It indicates that ownership stakes can result in poor divestment approach by distorting managers' structure of beliefs and attitudes towards negative news, and it deviates from the agency perspective's assumption that managerial incentives line up the interests of managers and principles.

Future research can draw on behavioral or agency perspectives to study CEO such characteristics as antecedents to divestiture, or to find if they may moderate divestiture antecedents-likelihood relation. For example, TMT and CEO psychological characteristics, such as personality (Herrman & Nadkarni, 2014), narcissism (Gerstner, Konig, Enders, & Hambrick, 2013), or hubris (Tang & Yang, 2015), can influence corporate strategic decision, process and performance consequences. These insights could be extended to divestiture process studies. For example, studies can investigate how corporate managers characteristics influence the involvement of divisional manger or communication with them, or from the divisional mangers' point of view, how affects their resistance against change. Further, scholars can investigate implications of top management characteristics to the interactions between antecedents, process and outcomes. For example, studies may examine how managerial dispositions moderate their capability of transforming information asymmetry into value through divestitures (Bergh et al., 2008).

Another opportunity relates to research on environmental factors, as Table 1 shows only one of the four studies (i.e., Hamilton & Chow, 1993) considers both general and task environments as antecedents to divestiture, when research suggests both are important. For example, future research may want to draw on the institutional theory to study weak institutions as an antecedent to divestiture of prior acquisitions, including cross-border ones. Unit size is another potential opportunity for the expansion of theoretical application in studying antecedents. Even though unit size is a significant antecedent to divestiture, it is often studied with a behavioral perspective. In spite of behavioral perspective dissuading divestment of large units, one may argue that in cases of underperforming units, the negative impact of unit poor performance is magnified and could drive divestment For example,

research can draw on TCE to argue that in cases of inefficient governance modes, the larger the unit, the more value generating its divestiture. Combined with lack of theories in studying unit size, suggests that studies can apply more theories to explain the effect of unit size on likelihood and types of divestiture.

Our review also suggests research can benefit from applying entrepreneurship perspective to divestiture processes. For example, scholars can view divestitures as means of corporate venturing (Keil, McGrath, & Tukiainen, 2009; Villalonga & McGahan, 2005). This suggests an application for established entrepreneurial decision-making components, including opportunity assessment, entry, and exit decisions, entrepreneurs' biases and characteristics, and environmental factors (Shepherd, Williams, & Patzelt, 2015).

2.4.2 Managerial Implications

Our review suggests managers should be cautious in generalizing inferences from experience, and that they can generate larger value through matching the mode of divestiture with the organization's history of prior divestments. Additionally, research on divestiture process implies that in order to maximize the benefits of divestiture as an effective portfolio restructuring strategy, firms need to devise a divestiture program rather than relying on single transactions. To do so, managers can establish specialized divestment teams focused on running the due diligence and selecting units to divest, planning the divestiture process and mode, communicating the reasons and benefits of divestiture, and eventually, retaining a post-divestiture relation with the divested units when required.

Behavioral perspectives of divestment have implications to both managers and owners. To owners, it implies that optimized incentives can improve managers' strategic decisions and practices. To managers, it implies that better communication of divestment logics and expected outcomes can effectively raise employees' and unit managers'

motivation and cooperation, for example, through enhancing perceptions of procedural justice (Gopinath & Becker, 2000), which in turn in advantageous to the divestment process and outcomes. Additionally, managers have an opportunity to turn information asymmetry into profit through right choice of divestiture type.

2.4.3 Limitations and Future Research

There were some limitations to our review. One was that we could not explain in detail every antecedent considered by prior studies. Instead, we prioritized to focus on most commonly applied theories and concepts. We believe there remain opportunities for cross-disciplinary review narrowed down to one or a few variables, such as performance, size, or relatedness. Another limitation was mixing studies on divestment of pre-acquired units with other units, and antecedents to sell-off may have different implications for the sell-off of pre-acquired units. For example, low performing pre-acquired units are more subject to the escalation of commitment as divesting them may signal a prior mistake (e.g., Hayward & Shimizu, 2006; Porter, 1987).

Future research can investigate the portfolio restructuring implications to strategic restructuring through combination of divestments and acquisitions. While extant strategy research argues for considering divestments in the context of portfolio restructuring, it does not explicitly examine portfolio explanations for divestiture. For example, it does not apply the portfolio management concepts, such as balancing between risk and return, in making restructuring decisions.

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CHAPTER 3. PORTFOLIO THEORY: CORPORATE RESTRUCTURING AND THE DIVESTMENT OF PRIOR ACQUISITIONS

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Abstract

Research Summary: Consistent with portfolio theory, increased variation in a firms' performance following an acquisition predicts divestment of a previously acquired firm. We employ survival analysis to study longitudinal data on a matched sample of 738 acquisitions for 369 targets that were later divested and 369 matched targets that were not divested to build hand collected data for 6,973 firm-year observations. Results show that increased variation in acquiring firm stock performance following an acquisition significantly impacts subsequent divestment of the same target firm. Additionally, we find moderating effects for target relatedness and acquiring firm performance after an acquisition. When a target is related to an acquiring firm's operations, it will be more likely to be divested if subsequent stock performance variation increases. Additionally, higher stock performance makes an acquirer less likely to divest an acquired unit even if it contributes to increased stock performance variation.

3.1 Introduction

Little is known about the processes surrounding corporate restructuring (Iyer and Miller, 2008). While research recognizes that firms actively restructure their portfolio of businesses through acquisitions and divestitures in pursuit of improved performance (Barkema and Schijven, 2008; Dranikoff, Koller, and Schneider, 2002; Schönhaar, Pidun, and Nippa, 2014), examining portfolio explanations for divestment are largely unexamined. For example, there is a recognized need to consider divestments as part of a firm's portfolio

strategy (Shepherd, Williams, and Patzelt, 2015). Portfolio theory operates under the premise of maximizing expected returns and minimizing performance variation through using diversification (Markowitz, 1952). Additionally, research generally considers acquisitions and divestments separately (Brauer, 2006); however, a large proportion (33 to 44 percent) of acquisitions are later divested (Kaplan and Weisbach, 1992; Porter, 1987; Ravenscraft and Scherer, 1987) suggesting a need to consider acquisitions and divestment together. We maintain that investigating performance variation in the context of portfolio theory may lead to a better understanding of strategic decisions relating to the divestment of former acquisitions.

Performance variation is a widely accepted measure of corporate risk (Bloom and Milkovich, 1998; Fisher and Hall, 1969; Miller and Bromiley, 1990; Woo, 1987), and diversification decisions often attempt to maximize returns and minimize performance variation (Markowitz, 1952). As a result, managers can increase shareholder wealth using acquisitions to increase performance and reduce its variation (e.g., Chatterjee and Lubatkin, 1990; Mackey, Barney, and Dotson, 2017; Lubatkin and Chatterjee, 1994; Lubatkin and O'Neill, 1987). However, if expectations that an acquisition reduces performance variation are not met, then firms may subsequently divest an acquired unit. Extant research has not examined the impact of performance variation following acquisitions on divestment, and we find it offers similar explanatory power as changes in firm performance.

We contribute to the literature in multiple ways. Primarily, we consider how an acquisition's effect the performance variance of the combined firm influences subsequent divestiture decisions of that acquired unit. This extends prior work that largely examines the performance of acquired units in explaining divestment (e.g., Hayward and Shimizu, 2006;

Shimizu, 2007). Specifically, we apply portfolio theory to compare the impact of both firm performance and its variation in predicting divestment of prior acquisitions. Hand collected data from searches of news articles and other sources identified divestment of prior acquisitions that were matched with acquirers that did not make divestments for 6,973 firm-year observations. We find portfolio theory helps to explain restructuring decisions involving acquisition and divestment of previously acquired business units.

We also examine two moderators of firm divestment likelihood from portfolio theory related to: 1) expected parent firm stock performance, and 2) relatedness of acquisitions. With respect to performance, higher than expected stock performance appears to counterbalance divestment of acquisitions after an increase in stock performance variation. This suggests that maximizing performance in portfolio restructuring may be more important than reducing performance variation. In considering relatedness, prior research observes that the majority of divested acquisitions are unrelated and associated with losses (e.g., Bergh, 1997; Kaplan and Weisback, 1992; Meschi and Metais, 2015). This relates to managers have richer insights over a related business unit's operations, market, and industry (Bergh, 1995, 2008), so they may feel more confident toward fixing issues in a related unit (Elfenbein and Knott, 2015). As a result, related acquisitions are less likely to change a firm's performance variation. However, when stock performance variation increases after a related acquisition, we find a prior acquisition is more likely to be divested. Applying portfolio theory begins to explain inconsistent research findings on the effect of acquisition relatedness that result in relatedness not being a significant predictor of acquisition performance when results are aggregated in a meta-analysis (King *et al.*, 2004). The conflicting findings in extant research that contribute to an insignificant effect of relatedness likely results from the impact of

unobserved variables, and prior research has not considered performance variation. In our application of portfolio theory that holds managers maximize returns and minimize their variation, we find results consistent with stock performance variation contributing to divestment decisions.

3.2 Theory and Hypotheses

Portfolio theory posits that goals related to maximizing expected returns and minimizing performance variation drive restructuring decisions (Bowman and Singh, 1993; Markowitz, 1952). However, research applies different theoretical perspectives to divestment decisions. In an exemplar study, Shimizu (2007) relies on prospect theory (Kahneman and Tversky, 1979), threat rigidity (Staw, Sandelands, and Dutton, 1981), and behavioral theory of the firm (Cyert and March, 1963) to investigate unit underperformance in divestment of prior acquisitions. Recently, Hashai (2015) explains firm diversification as balancing adjustment and coordination costs against synergistic benefits to suggest that firm performance falls at higher levels of diversification. In considering extant research, portfolio explanations of firm diversification remain largely unexplored in management research, and this is an important omission as portfolio theory maintains there is a diversified portfolio superior to all non-diversified portfolios (Markowitz, 1952).

Portfolio theory suggests that managers constantly re-evaluate their portfolio of businesses and restructure it by adding and subtracting units (Dranikoff *et al.*, 2002; Hoskisson and Turk, 1990). Under portfolio theory, corporate managers screen a business unit based on its interactions with other units inside a firm (Lubatkin and Chatterjee, 1994). Even though portfolio optimization and diversification are established concepts in finance, its application in corporate restructuring is less developed in management research. We use portfolio theory to examine decisions to retain or divest a prior acquisition. Drawing from the

portfolio theory, we contend that increased stock performance variation drives the divestment of prior acquisitions. Additionally, we argue that this relationship is moderated by the relatedness of a prior acquisition and higher corporate performance, see Figure 2.

3.2.1 Change in Performance Variation

For acquisitions, less performance variation is an underlying motive (Seth, 1990) that is consistent with portfolio theory. While performance is the most commonly studied antecedent of corporate divestment (Kolev, 2016), performance variation is less examined. Portfolio theory postulates an inverse relation between performance variation and corporate diversification, as the performance of different businesses is not perfectly correlated (e.g., Contractor, 2007; Kim, Kim, and Pantzalis, 2001; Mauri, 2009). In other words, managers can use acquisitions to diversify and achieve more stable performance (Devers *et al.*, 2013; Markides, 1995).

In general, stock performance variation corresponds to greater risk (Low, 2009), or it is associated with negative consequences (Ang and Liu, 2007). For example, greater performance variation is associated with greater risk of bankruptcy or credit problems (Correia, Kang, and Richardson, 2018; Kim *et al.*, 2001; Merton, 1974) from less predictable and less persistent performance (Dichev and Tang, 2009; Graham, Campbell, and Rajagopal, 2005; Sloan, 1996). As a result, greater stock performance variation increases a firm's cost of capital (Barth, Konchitchki, and Landsman, 2013) and compensation costs (Amihud and Lev, 1981). A firm's stock performance variation is commonly captured as the standard deviation of stock returns over a given trading period (e.g., Akter and Nobi, 2018; Glosten, Jagannathan, and Runkle, 1993).

Not all shareholders are well diversified against risk, so they may value lower stock performance variation. This is in line with corporate boards using lower earnings volatility

and performance persistence to assess executive performance and make compensation decisions (Ashley and Yang, 2004). The desirability of lower performance variation is also consistent with research finding that managers actively smooth earnings (e.g., Healy and Wahlen, 1999; Schipper, 1989). By extension, lower performance variation reflects better managerial decision making and resource allocation, enabling more predictable shareholder returns. For example, corporate restructuring enables firms to adapt to their environments and to accomplish long term strategic goals and survival (Schönhaar et al., 2014). Therefore, we argue lower stock performance variation following an acquisition is associated with favorably impressions of an acquisition, and higher performance variations is viewed negatively, and we hypothesize:

> *Hypothesis 1*: *Acquisitions followed by increased variation in stock performance are more likely to be divested.*

3.2.2 Relatedness

Related acquisitions provide acquirers with economies of scale and scope that are associated with lower performance variation (Berger and Ofek, 1995; Chatterjee and Lubatkin, 1990; Helfat and Eisenhardt, 2004). For example, greater insight into related acquisitions, including industry structure and target's future performance (Bergh and Lim, 2008), enables managers to buffer market fluctuations (Chatterjee and Lubatkin, 1990). Additionally, familiarity lowers the sunk costs of entering a related business (Lieberman, Lee, and Folta, 2016), reflecting related acquisitions offer improved asset fit within an acquirer (Haspeslagh and Jemison, 1991; Laamanen *et al.*, 2014).

However, the impact of unit relatedness with firm performance and divestment is complex. Research indicates that unrelated business units may serve as revenue hedges (Bergh, Johnson, and Dewitt, 2008), but research generally considers related acquisitions as

involving less risk than unrelated ones (Eisenmann, 2002). Still, greater integration of related acquisitions into a firm's legacy businesses suggests related acquisitions are more disruptive (e.g., Miller *et al.*, 2010). However, we anticipate divestment will be more likely when a related acquisition increases performance variation, because divestitures can help restructure operations to stabilize performance (Dranikoff *et al.*, 2002). In other words, firms have less tolerance for performance variation increasing after a related acquisition, and we hypothesize:

> *Hypothesis 2: Unit relatedness positively moderates the relationship between stock performance variation and divestiture of prior acquisitions.*

3.2.3 Expected Firm Performance

Research indicates that poor performance triggers portfolio restructuring within corporations (Bergh and Lawless, 1998; Hilderbrandt *et al.*, 2018). To better portray the concept, we use the analogy of a soccer team by viewing a soccer team as a portfolio of individual players with different attributes. It is an established idea that coaches are reluctant to change the arrangement of a winning team to avoid interrupt the team's success trend. "New is not always better. Every team is constructed around a system of relationships; the more successful teams have better aligned relationships, and those relationships lead to increased cohesion" (Lyttleton, 2019). By extension, a different line-up of players changes team performance.

Portfolio theory assumes the maximization of expected returns (Markowitz, 1952), while balancing between risk and return, suggesting that higher return compensates for higher risk. This suggests that higher firm performance may enable managers to better "overlook" increased stock performance variation following an acquisition by reducing the pressure to restructure a firm's portfolio of businesses. Further, research reports an inverse

relation between corporate performance and unit divestiture (e.g., Berry, 2010; Brauer, 2006; Damaraju, Barney, and Makhija, 2015; Hoskisson, Johnson, and Moesel, 1994; Kolev, 2016). In general, this research suggests that there is less motivation to make additional restructuring decisions, such as divestment, when corporate performance is higher. Therefore, we hypothesize:

> *Hypothesis 3: Higher stock performance negatively moderates the relation between firm stock performance variation and the divestiture of prior acquisitions.*

3.3 Data and Methods

3.3.1 Sample

We used the merger and corporate transaction databases of Thomson One Banker to identify completed acquisitions of listed U.S. firms by another U.S. public firm between 1995 and 2010 that were later divested through 2016. This allows sufficient time to monitor acquisitions as research indicates 5 years is long enough to complete the integration process and for the acquisitions outcomes to be realized (Datta and Grant, 1990). We pick this period as data on corporate transactions before 1990 is less complete (Anand and Khanna, 2000), and it covers the fifth and sixth merger waves with more strategically driven mergers. We reviewed press releases through LexisNexis Academic and Bloomberg and read through companies' SEC filings in the Edgar database to verify that each divestiture represents an acquirer's full divestiture of a prior acquisition and not driven by bankruptcy or financial default.

Portfolio restructuring tends to be less successful among innovative firms or in industries where there is high emphasis on innovativeness, but more successful within mature industries where firms' focus is on increasing internal efficiencies (Hitt *et al.*, 1996). Figure 3 displays the industries included in our sample. Our sample excludes financial industries (SIC

codes of 60-69), and regulated industries with SIC codes of >90 (public administration) and 49 (Gas, electric and energy). We only consider full acquisitions and divestitures, where the majority ownership of firms will be transferred to eliminate divestitures driven by post-acquisition redeployment of assets (Capron, Mitchell, and Swaminathan, 2001). This also controls for partial divestitures driven by regulatory review. We also disregarded divestitures in the same year or within one year from the acquisitions as they may represent planned equity changes or divestitures by acquirers as part of an acquisition strategy (Shimizu and Hitt, 2005).

To begin building a panel of firm-year observations, we used COMPUSTAT, Thompson One Banker, corporate SEC filings, and CRSP, to collect acquirers' accounting and financial data starting with the year prior to the acquisitions through the end of our observation period or when acquisition was divested. Our initial sample of acquisitions that were divested included 673 deals. We excluded divestitures of prior acquisitions when the acquirer itself was acquired, merged, or became bankrupt before the divestment. This reduced our sample to 420 deals. After removing deals with insufficient data, our final sample has 369 acquisitions that were later divested. We tested for sampling bias from missing data using a Kolmogorov-Smirnov test of ROA, sales, and size, and results verify that there is not systematic bias between sample and non-sample firms.

Since we are focusing on acquisitions that were divested, there is an issue of endogeniety, or non-random selection bias in our sampling. To address this issue, we used a case-control sampling design, where we picked control firms that made acquisitions that were not divested in our observation period. We applied the propensity score matching model (Feldman and McGrath, 2016) to identify comparable non-divesting matches to the divesting

firms in our sample. We follow (Nguyen and Rahman, 2015) in using firm size, ROA, leverage, year, and industry to measure the propensity of divesting a prior acquisition from a panel of divesting and non-divesting acquirers as an exponential of the outcome of the following logit model:

$$Divest = \beta_1 Size + \beta_2 ROA + \beta_3 Leverage + \gamma_1 Year + \gamma_2 Industry + \varepsilon$$

Where the dependent variable *Divest* is a dichotomous variable taking the value of one if the acquirer divests the acquisition and zero otherwise. *Size* is the natural logarithm of firm total assets. *ROA* is the return on assets, *leverage* is the ratio of total debt to total assets, *Year* is the year in which acquisition takes place, and *Industry* is a vector of dummy variables based on two-digit SIC codes. "γ_i" implies exact values are used for matching. Therefore, we matched each firm that divested an acquisition with a control firm that made an acquisition, which was not later divested based on the closest propensity score in the same two-digit industry segment and in the same year.

3.3.2 Dependent Variables

The dependent variable is the hazard rate (the probability) of an acquirer divesting the acquisition in a given year, given it has not divested it before using event history analysis calculations. Event history analysis allows using longitudinal data with time-varying variables to predict the impact of an explanatory variable on the timing and the occurrence of an event (Allison, 1984). Event history analysis also accommodates the issue of right-censored data by estimating hazard rates of divestment within our control group, where acquirers will not have divested their acquired unit by the end of 2016—the last date in our time span. In accordance with the event history analysis methodology, acquisition and divestiture status are recorded annually to build a panel of firm-year observations. We coded a dichotomous dependent variable for each year with a value of one if a firm undertakes a

divestiture, and zero otherwise. We then use the Cox (1972) proportional hazard model to compute the hazard of divestment in each year as follows:

$H_i(t) = h_0(t) \exp(\beta X[t])$

Where $h_0(t)$ is an unspecified baseline hazard function, X[t] is the vector of specified covariates at time t, and β is the vector of coefficients associated with the covariates. Allowing time-varying covariates and stratified analysis of each time period, the Cox proportional model is a flexible and robust model than can be employed to avoid misspecification when the shape of time dependence of the hazard rate is hard to specify. We checked for violations of the underlying proportional hazard assumption in the Cox model to find potential independent variables with time varying coefficients. We detected only one independent variable (*Excess Return*) violating this assumption and fixed for this issue by defining a time interaction.

3.3.3 Independent Variables

We have three variables associated with hypothesized effects consistent with portfolio theory. First, we used stock market performance variation as a proxy for the change in a firm's *performance variation*, and we measured it in two-stages. First, we calculated the variance of twelve, monthly stock returns over one year for each year following the acquisition. Second, we calculated and then subtracted the variance stock returns for the year prior to an acquisition to reflect changes in performance variance following an acquisition. Second, we measured *relatedness* of acquirer and target using a categorical variable taking the values of one, two, three, and four, if the acquirer and target share none, two-digit, three-digit, and four-digit SIC codes, respectively (Hoskisson *et al.*, 1993; King, Slotegraaf, and Kesner, 2008). Third, we measured firm *relative performance* as the return on firm security prices in excess to the market expectation from the CAPM model. We calculated monthly

excess returns over a three-year estimation period (36 months) for each month, and then we averaged twelve monthly observations for each year. To address relative performance's violation of the proportional hazard assumption, we included a time interaction term (with year) to all models.

3.3.4 Control Variables

We applied multiple controls to address potential alternate explanations for our hypothesized effects. First, we used *ROE* extracted from COMPUSTAT to control for firms' accounting performance each year. Second, we controlled for acquirers' *leverage*, as a ratio of debt to total assets each year. Excessive leverage may result in financial distress which is one of the most cited drivers of portfolio restructuring through divestitures (Berry, 2013; Brauer, 2006). Third, the *size* of an acquirer may reflect codification of routines and an acquisition capability. Therefore, we control for the acquirers' size measured as natural logarithm of the total assets at the beginning of each year from COMPUSTAT. Fourth, managers can use excess financial resource and cash available to them in line with their own interest and securing their employment by engaging in activities that may be value destroying to shareholders (Jensen, 1986). Hence, we control for the free cash flow *(Cash Flow)* measured as firm's operating cash flow after subtracting cash dividends and capital expenditures. Fifth, a*cquisition experience* also influence divestiture activities (Meschi and Metias, 2015) as *acquisition experience* enables firms to capitalize the inter-firm diversities to develop their post-merger integration process (Dikova, Sahib, and Witteloostuijn, 2010). We control for *acquisition experience (Acq.Experience)* as the natural logarithm of the number of acquisitions over 5 years before the focal acquisition. Sixth, *divestiture experience* (*Div.Experience*) increases firms' restructuring capabilities, enabling them to make better acquisitions and divestitures in the future. We control for *divestiture experience*

(*Div.Experience*) as the natural logarithm of the number of divestitures over 5 years before the acquisition. Seventh, we controlled for *Tobin's Q (Q)* measured as the ratio of a corporate's market value to its asset book value. *Q* ratio demonstrates if a firm market value is worth its replacement costs; in other words, it indicated whether a company is over/under-valued. Eighth, we control for *Jensen's alpha (Alpha)* measured through the CAPM model for every year following the acquisition, same as we did for the excess return, as an indicator of firms' relative performance to the market benchmark. We rely on Standard and Poor (S&P) 500 as the market benchmark. Ninth, *acquisition performance* at announcement reflects market's perception of the acquisition and may signal investors' reaction to the subsequent divestment. Therefore, we control for *acquisition performance at announcement (CAR11)* as the cumulative abnormal return over a period of three days from one day prior to one day after (-1, +1) the acquisition announcement date. Finally, we controlled for the fixed effect of *Industry* at two-digit SIC codes, and fixed effect of the *Year* of acquisition.

3.4 Results

Table 4 displays the standard deviations and means of independent variables, as well as correlations between variables. The total sample size of 738 represents 369 divested acquisitions paired with 369 non-divested acquisitions, resulting a total of 6,973 longitudinal firm-year observations. All the correlations are below levels that raise multicollinearity concerns. Still, we double-checked for any potential multicollinearity issues by calculating the variance inflation factor (VIF) across all regression models later displayed in Table 5. We did not observe any VIF score larger than four, or values are well below a VIF threshold of 10 (Tabachnick and Fidell, 2012). All independent variables except categorical variables are standardized.

Table 5 illustrates the survival analysis results obtained from the Cox proportional hazard regressions with time-dependent covariates and coefficients. Numbers reported are hazard ratios; therefore, hazard ratios larger than 1 imply increased divestment likelihood, and ratios below 1 indicate decreased likelihood of divestment of prior acquisitions. We checked for the validity of the proportional hazard assumption across all models by inspecting Schoenfeld residuals to verify that hazard ratios are constant over time. A non-random, time dependent distribution of scaled Schoenfeld residuals indicates a violation of the proportional hazard assumption. Only one variable (Mkt Return) violated the proportional hazard assumption. We addressed this issue by adding an interaction between the given variable and time into the regression models to capture coefficient changes over time (Thomas and Reyes, 2014). We performed a fixed effect analysis for the effect of acquisition year and acquirer industry in every model, and did not find any significant effect for year or industry in any of our models. In supplemental material for review, we also graph the distributions of the years of acquisitions and divestitures, as well as the time interval between acquisitions and divestitures in Figures (8-10).

Model 1 includes all control variables and independent variables except for the performance variation. Model 1 shows that a firm's subsequent stock performance and Jensen's Alpha have a statistically significant negative effect on the likelihood of divestment. This finding is intuitive, consistent across all models, and in line with portfolio theory, or it suggests that higher performance reduces managerial pressure to restructure. Model 1 also shows a significant positive effect for leverage on divestiture, the finding is consistent with the existing divestiture literature (Brouer, 2006). However, we do not find a significant impact of free cash flow in our initial or subsequent models. We also do not find a significant

effect for the stock market's reaction to an acquisition announcement (*CAR11*). Supplemental analysis comparing the market reaction for firms that later divested an acquisition and firms that retained an acquisition using a t-test also fails to find a significant difference. These results suggest that the market reaction at acquisition announcement is not a sufficient predictor of subsequent divestment.

Model 2 includes performance variation (*Variation*). Hypothesis 1 suggests a direct positive effect for performance variation on divestment of prior acquisitions. Model 2 shows a significant positive effect for performance variation on divestiture of prior acquisitions [$\beta = 0.15$, hazard ratio (HR) = 1.165, $p = 0.0008$, HR confidence interval (CI_{HR}) = (1.065, 1.273), and $\alpha = 0.05$]. The hazard ratios (HR) reported in Table 2 represent effect sizes corresponding to one standard deviation change in continuous variables. Therefore, the HR of 1.16, for the performance variation in Model 2, implies a 16 percent increase in the likelihood of divestment of prior acquisitions corresponding to post-acquisition one standard deviation increase in acquirer's performance variation. The confidence interval of (1.065, 1.273) at $\alpha = 0.05$ significance level implies that, at 95 percent confidence level, one standard deviation increase in performance variation is associated with an increase of between 6.5 to 27 percent in the likelihood a prior acquisition will be divested. This finding is uniform across all models and supports Hypothesis 1 and portfolio theory expectations of corporate restructuring being associated with performance variation. Figure 4 displays Kaplan–Meier survival plots for acquisitions with low and high performance variation to better illustrate the effect of increased post-acquisition performance variation on divestment of prior acquisitions.

Hypothesis 2 predicts related acquisitions that later experience increased stock performance variation are more likely to be divested. Model 4 includes the interaction between unit relatedness and performance variation (*Variation:Related*), and we find a significant and positive coefficient for the interaction [$\beta = 0.4$, HR = 1.49, $p = 0.007$, CI_{HR} = (1.11, 1.998), and $\alpha = 0.05$], and this is also consistent with Model 5. These results support Hypothesis 2 and portfolio theory. The confidence interval of (1.113, 1.998) at $\alpha = 0.05$ significance level implies that, at 95 percent confidence level, the hazard ratio for the interaction term is above one. These findings imply that as the degree of stock performance variation increases post-acquisition, firms are more likely to divest related prior acquisitions than unrelated ones. Figure 5 displays Kaplan–Meier survival plots for related versus unrelated acquisitions following increased performance variation to better illustrate the effect of unit relatedness on divestment of acquisitions associated with increased performance variation.

Hypothesis 3 holds that higher firm performance negatively moderates the relationship between performance variation and divestment of prior acquisitions. Model 3 reports a significantly negative interaction [$\beta = -0.033$, HR = 0.967, $p = 0.040$, CI_{HR} = (0.937, 0.998), and $\alpha = 0.05$] between performance variation and the average abnormal market performance, represented as (*Variation:Excess Return*). The hazard ratio (HR) of 0.97 indicates an effect size of above three percent, with the confidence interval of (0.937, 0.998) at $\alpha = 0.05$ significance level, implying that at 95 percent confidence level, the hazard ratio for the interaction term is smaller than one. Findings imply that at the same degree of post-acquisition increased performance variation, firms with higher excess returns are less likely

to divest prior acquisitions. Figure 6 displays Kaplan–Meier survival plots; it illustrates divestment of prior acquisitions under conditions of positive and negative firm performance.

Model 5 shows consistent results, supporting Hypothesis 3. As a robustness check, we replaced the excess market return with market return, and we found non-significant interaction between the performance variation and market performance. In summary, we developed five models to test our hypotheses. Model 1 includes control variables. Models 2, 3, and 4 test for hypotheses 1, 3, and 2, respectively. Finally, Model 5 accommodates all variables and interaction terms. We find consistent support for our hypotheses based on portfolio theory, see Figure 7 for a summary our findings.

3.5 Discussion

Using portfolio theory, we examine corporate restructuring through acquisitions and subsequent divestments by considering acquirer post-acquisition stock performance variation as a precursor of divestment. We find that an increase in acquirer's stock performance variation after an acquisition is a significant predictor of subsequent divestment of the same unit. We also find that unit relatedness positively moderates the relationship between increased performance variation and divestment. Additionally, we find acquirers with higher performance are less likely to divest an acquisition. While managerial motives for acquisitions exist, we find that divestment decisions for acquisitions appear consistent with shareholder interests. Overall, our findings support portfolio theory expectations that corporate restructuring involves efforts to maximize returns and reduce their variation.

Our study contributes to an improved theoretical understanding of acquisitions, divestment and corporate restructuring. The existing literature covers a variety of theoretical perspectives to empirically investigate divestment of prior acquisitions, including agency theory (Shimizu and Hitt, 2005), prospect theory (Hayward and Shimizu, 2006; Shimizu,

2007), resource dependence theory (Xia and Li, 2013), and learning theory (Meschi and Metias, 2015). However, portfolio explanations of acquisition divestitures have not been explored. We submit that the portfolio theory coupled with a longitudinal examination of acquisitions and divestment together provides greater insight of corporate restructuring activities. Specifically, we find prior acquisitions are more likely to be divested when they increase stock performance variation. However, this effect is mitigated when stock performance is higher than expected, and intensified when an acquisition is related or in a similar industry. Below, we outline additional research implications, as well as practical implications for managers.

3.5.1 Research Implications

We extend the portfolio theory into corporate restructuring by viewing firms as a portfolio of different businesses. Under portfolio theory, firms constantly evaluate their businesses, and employ acquisitions and divestitures as tools to implement restructuring. Research confirms this practice by showing that firms divest a considerable proportion of their acquisitions (e.g., Ravenscraft and Scherer, 1987); however, we do not know much about this phenomenon. Our findings are somewhat consistent with viewing divestment of prior acquisitions as a correction of a mistake (Berger and Ofek, 1995) where the 'mistake' is increased stock performance variation, even though we cannot assess whether or not the acquisition actually caused the variation. This insight directly results from consideration of portfolio theory and the dual goals of maximizing performance and minimizing its variation.

In contrast, extant empirical research mainly focuses on acquired unit performance, arguing that firms will divest underperforming acquired units. One shortcoming in this stream of reasoning, we argue, is that it undervalues corporate level factors and fails to view a unit within the context of a larger firm's portfolio of businesses. Viewing firms as a

portfolio of business units makes each stand-alone unit's performance less pronounced in the interest of the larger corporate performance. We find considering the impact of performance variation following an acquisition provides similar explanatory power in predicting subsequent performance. Results are consistent with a portfolio perspective, and inconsistent findings in prior research may result from not considering the impact of performance variation.

This study also provides insights on the impact of parent-unit relatedness on unit divestiture by incorporating performance variation following acquisitions. Unrelated acquisitions are generally associated with lower performance (Bergh, 1997; Kaplan and Weisbach, 1992; Porter, 1987) and higher failure (Meschi and Metais, 2015). As a result, research maintains unrelated acquisitions are sources of integration complexity, inefficient intra-organizational resource allocation, and negative performance (Bergh, 1995, 1997; Mahoney and Pandian, 1992). However, in applying portfolio theory, we find support for a counter argument that managers use unrelated diversification to improve performance and lower its variation (Bergh, 1995). Our findings suggest that (when achieved) increased performance overshadows the influence of performance variation. This finding is consistent with behavioral theory of the firm (Cyert and March, 1963) that suggests performance below expectations triggers problemistic search associated with strategic change (Greve, 2003, 2008). Meanwhile, agency theory predicts that managers use unrelated diversification to lower employment risk (Amihud and Lev, 1981; Castaner and Kavadis, 2013) by using free cash flow to make value destroying acquisitions (Jensen, 1986). Our results are inconsistent with agency theory, but they are consistent with Mackey *et al.* (2017) who conclude that over-diversification is limited. We add to this stream of research by demonstrating the impact

of performance variation on divestment decisions and pursuit of higher performance as mitigating over-diversification, or we develop, test, and find results consistent with portfolio theory. When considering corporate restructuring, our results suggest portfolio theory complements behavioral theory of the firm, and it conflicts with agency theory in predicting divestment.

3.5.2 Managerial Implications

Our results also offer practical implications for managers. Variation in stock performance may need equal consideration to increasing stock performance, as investors appear to reward consistency with expectations (e.g., Docking and Koch, 2005). While firm performance variation represents potential employment risk (Amihud and Lev, 1981), the impact of corporate restructuring on performance variation represents a valid managerial concern for corporate restructuring. Our findings suggest managers need to address increased performance variation with corporate restructuring, as they pursue increased firm performance.

In making restructuring decisions, managers need to recognize interactions across a firm's portfolio of businesses. In other words, the addition or removal of one unit can be detrimental to other units and the entire firm (Shimizu and Hitt, 2005). Therefore, managers can benefit from evaluating business units' strategic fit to the whole firm (Hoskisson *et al.*, 1994; Xia and Li, 2013). Further, our results are consistent with managers using acquisitions to increase performance and lower its variation, and that managers likely divest an acquisition when these goals are not met. Specifically, when a related acquisition increases performance variation, divestment is more likely. This is counter to prevailing views of divestment as a stigmatized action that can make managers vulnerable to delaying needed divestment (Elfenbein and Knott, 2015). Finally, managers are cautioned against applying

similar discount rate across business units, as this can distort the risk of corporate investment (Kruger, Landier, and Thesmar, 2015) and influence subsequent performance variation.

3.5.3 Limitations and Future Research

There are limitations to this study that represent opportunities for future research. First, corporate divestiture is complex, and portfolio theory, though not tested before, is one among several theories applicable to explore aspects of this phenomenon. Additional research is needed to combine a portfolio theory with other theoretical explanations of corporate restructuring. Second, we earlier argued that a focus on unit performance overlooks interactions in a corporation's portfolio; however, we do not measure mutual dependence between the acquired unit and other subunits across the parent firm. Further, diversified firms are active in multiple industries, some of which might be unrelated to their primary industries, so a business unit unrelated to a firm's core business may still be closely linked and critical to the operations of other sub-units; examination of these effects represent an ongoing research need. Third, we only consider full divestitures, while alternative partial divestitures, such as spin-offs, and equity carve-outs also exist, and partial divestures require more research attention. We also do not measure the degree of unit integration. Processual case studies are needed to explore the integration process and its effects on acquisition performance and divestment. For example, it would be beneficial to study the post-divestment period to find how divestitures address performance variation. While we find a positive relation between increased performance variation following an acquisition and divestment of the same unit, very high levels of performance variation may create threat-rigidity within firms. Future research can investigate firms' divestment behavior under extreme performance variation. Finally, we only examine stock performance following an acquisition using a market (CAPM) model. Future research can separately examine

systematic (driven by market) and non-systematic (idiosyncratic) risk on acquisitions divestment (e.g., Miller, Le Breton-Miller, and Lester, 2010).

3.6 Conclusion

We view acquisitions and divestments as related methods of corporate restructuring used to pursue a portfolio of different business units that increase performance and lower its performance variation. Consistent with portfolio theory, we find evidence that increased performance variation following an acquisition is significantly associated with subsequent divestiture. Our findings also indicate that performance variation varies for divestment of related and unrelated acquisitions. Specifically, firms are more likely to divest related acquisitions that are followed by increased performance variation. Further, firm relative performance negatively moderates the effect of performance variation on decisions to divest prior acquisitions. In other words, higher performance is associated with managers overlooking increased performance variation following an acquisition. In closing, we hope this study opens doors for future research on corporate restructuring and applications of portfolio theory.

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CHAPTER 4. CONCLUSIONS AND FUTURE DIRECTIONS

4.1 General Discussions

The first paper is a systematic comprehensive review of multiple perspectives and methodologies employed to study divestiture antecedents, process, and outcomes. This review provides several contributions. First, it provides a better understanding of divestiture drivers and execution mechanisms by reviewing research on divestment antecedent and process. Second, it casts better insights into different stages of divestment process by breaking up divestment process into decision-making, implementation, and mode. Third, it identifies likely interactions between antecedents and process, as well as their potential implications to divestiture performance by synthesizing empirical findings and theoretical arguments on antecedents and process. Finally, it provides managerial implications for divestment decisions by integrating empirical findings and theoretical implications on divestiture outcomes and potential moderators of post-divestment performance. Findings suggest a need to integrate theoretical perspectives in studying distinct phases of divestitures, and that divestment capabilities may be limited to specific types. This implies that companies can employ different types of divestitures or use divestitures adjacent to other restructuring techniques to attain best outcomes.

In compliance with these findings, the second paper investigates strategic business portfolio restructuring using a combination of divestments and acquisitions. Portfolio restructuring decisions by firms reflect their long term strategic positioning, goals, and risk tolerance. Behavioral perspective indicates that risk tolerance is a determinant of corporations' strategic behavior, and that firms seek to avoid uncertainty. Accordingly, the second paper applies portfolio perspective to study the impact of risk on firms' decision to

divest prior acquisitions. Less uncertainty is a major source of post-acquisition synergistic value creation, and this study argues and find evidence that firms tend to view acquisitions associated with lower risk more valuable than acquisitions associated with higher risk. It also argues that relative performance and unit relatedness moderate the relation between risk and firms' decision to retain or divest prior acquisitions.

4.2 Future Research and Limitations

This dissertation provides directions for future research with respect to theory application, methodology, and process stages. There are multiple research opportunities as divestiture is largely understudied compared to other restructuring topics, like M&A. On one hand, future studies can enjoy the luxury of building upon the recently applied theories, still at their very embryonic stage of adaptation, in the context of divestiture to extend the findings and implications. For example, future studies may extend the agency type 2 perspective to study the impact of governance structure and board composition on potential conflict of interest among owners, and consequently, on divestment decision, process, and consequences. On the other hand, future studies can expand theoretical boundaries of the field by either importing novel and not-yet-explored in divestment theories or combining assorted perspectives. For example, future studies can draw from psychological identity and managerial cognition theories to examine the interplay between managers' role and social identities and cognitive characteristics and its impact on divestiture timeliness, speed, mode, and performance. Future research can draw on the behavioral or agency perspectives to study CEO and TMT psychological characteristics, such as managerial personality, narcissism, or hubris, in the context of divestiture.

With respect to the methodology, process studies are overshadowed by studies on antecedent and outcomes. This is a striking shortcoming knowing that research reportedly

advises not to view divestitures as isolated, one-time events, but rather as component of a larger planned restructuring program having direct interactions with firm's overall strategic picture. This emphasizes on the need for viewing divestitures as a holistic process extending from far before the decision is made to far after the deal is finalized. To gain a deeper and more precise understanding of whether a divestiture decision is made, its mode, and its performance consequences, scholars need to step beyond econometric analysis of archival data, and use more qualitative studies. For example, studies can investigate how top management team characteristics influence the involvement of divisional manger or communication with them, or from the divisional mangers' point of view, how affects their resistance against change.

Process studies can also provide better insights over issues, like efficiency of decision making, resource allocation and asset redeployment, as addressed by research applying RBV perspective (e.g., Capron et al., 2001; Capron & Mitchell, 2010) in studying corporate divestitures. Also, process studies facilitate better measurement of latent variables in studying resources such as absorptive capacity in divestiture studies.

Future research can also approach different context and sample units. Macro environment contingencies may result in corporate strategic approach towards either diversification or refocusing in response to external uncertainty. For example, research shows that different vision about divestitures driven by the national culture in Japan results in negative divestiture short term market performance (Ushijima & Schaede, 2014), a finding opposite to those in developed western countries. This represent opportunity for more future studies among developing countries with emerging economies, like Malaysia, Singapore, and

China. In addition, employing a qualitative method, scholars can further explore divestitures among small and mid-size privately held firms with less publically available data.

There are opportunities to further study antecedent, outcomes, and potential moderators. In considering antecedents. Future research may draw on the institutional theory to study weak institutions as an antecedent to divestiture. In considering outcomes, financial performance, captured through market and accounting returns, followed by innovation and growth are the most commonly studied divestiture outcomes. While research uses abnormal returns and returns on stocks as measures for long term market returns, future studies can use changes in market value to measure long term performance consequences for divesting firms. Meanwhile, there is lack of research on divested unit performance post- and pre-divestment, mostly due to the unit financial information is hard to access in many cases. This is another reason justifying more qualitative studies in the future to investigate unit performance pre- and post-divestiture.

In considering moderators, there is a need to monitor the relationship between the former parent and divested units. For example, divested units may also be later re-acquired.

4.3 Conclusion

This dissertation is composed of two academic papers studying strategic restructuring through acquisitions and divestitures. First paper reviews and synthesizes research on corporate divestment, and the second paper draws from portfolio perspective to study strategic restructuring using both acquisitions and divestitures. This dissertation mainly views acquisitions and divestitures as complimentary components of strategic portfolio restructuring and submits that companies can employ acquisitions adjacent to divestitures to improve restructuring outcomes.

APPENDIX A. FIGURES

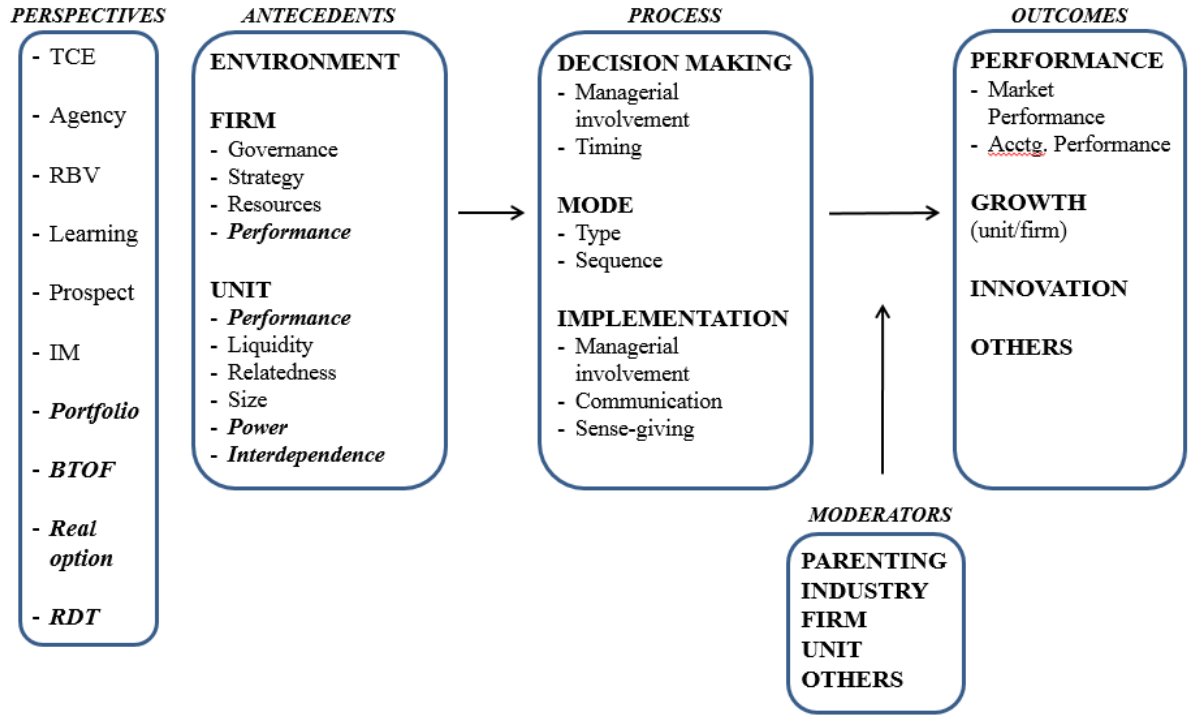

Figure 1: Overview of Divestment Process Stages

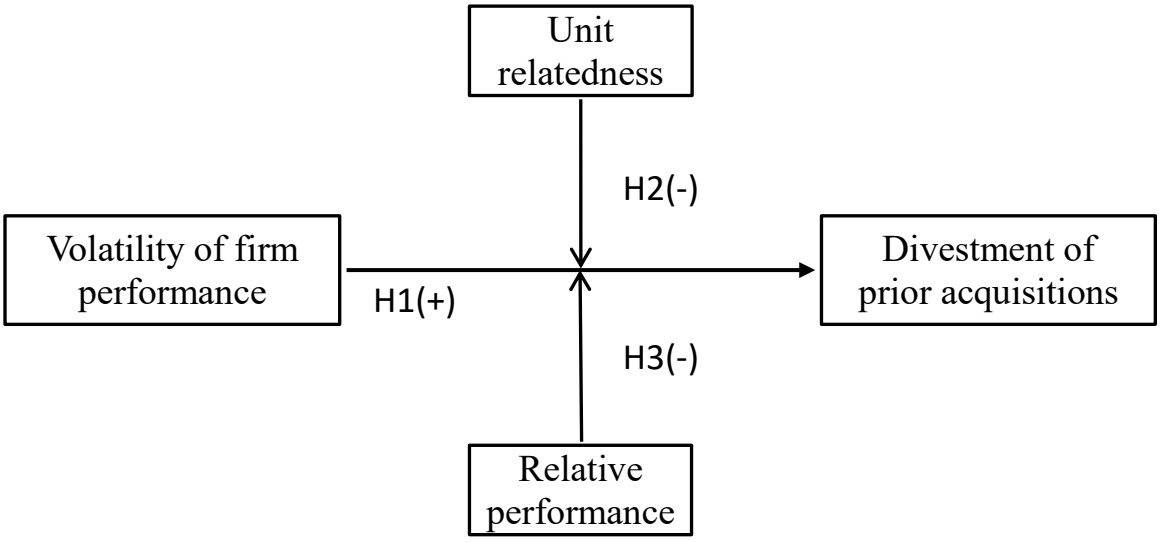

Figure 2: Theory Framework

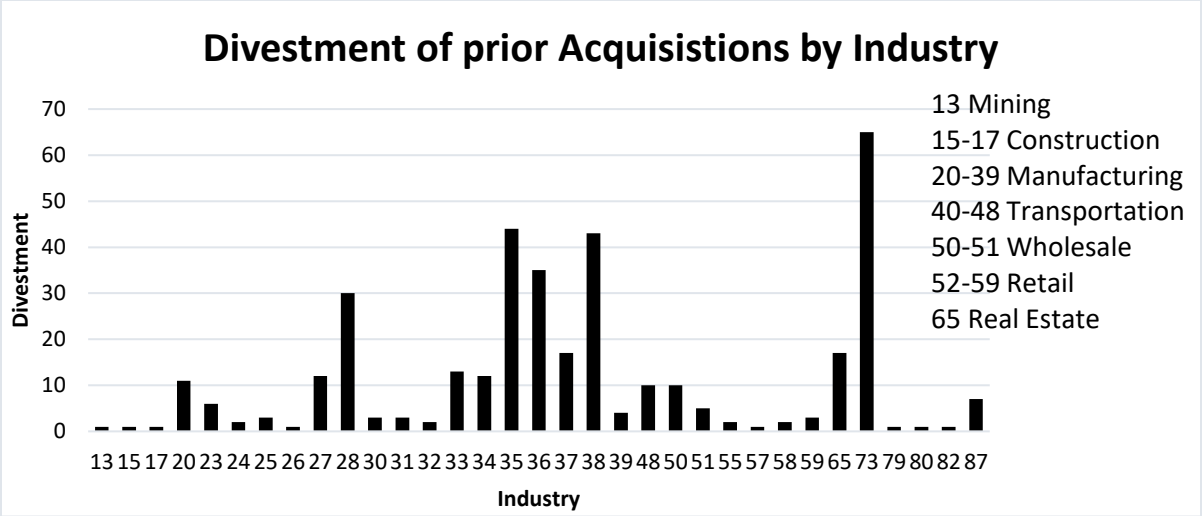

Figure 3: Distribution of Firm Industries on Our Sample

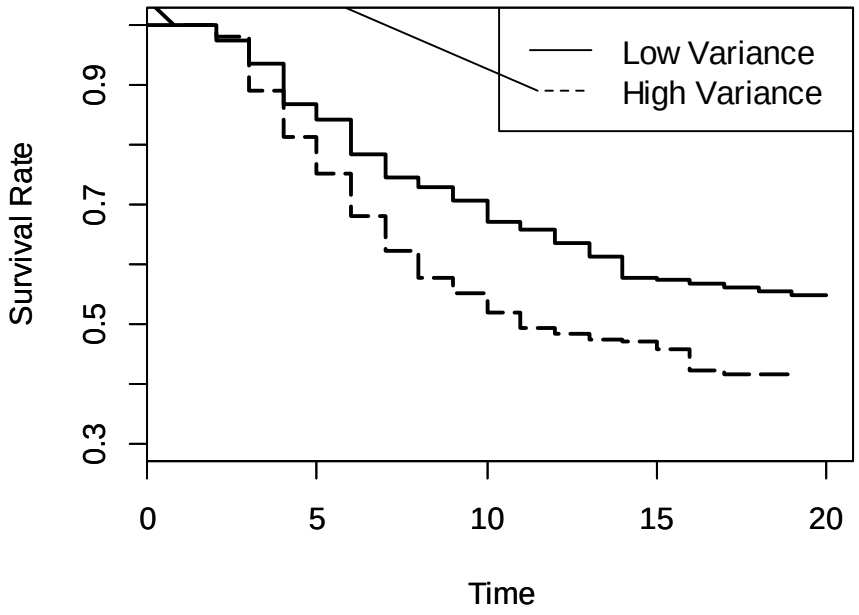

Figure 4: Prior Acquisitions Divestment for High vs Low Performance Variations

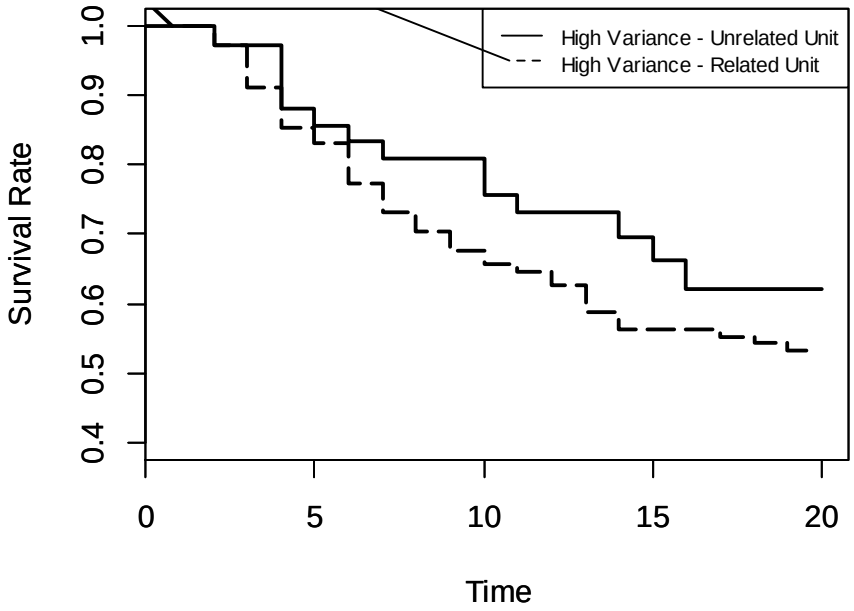

Figure 5: Increased Performance Variation and Divestment of Related vs. Unrelated Acquisitions

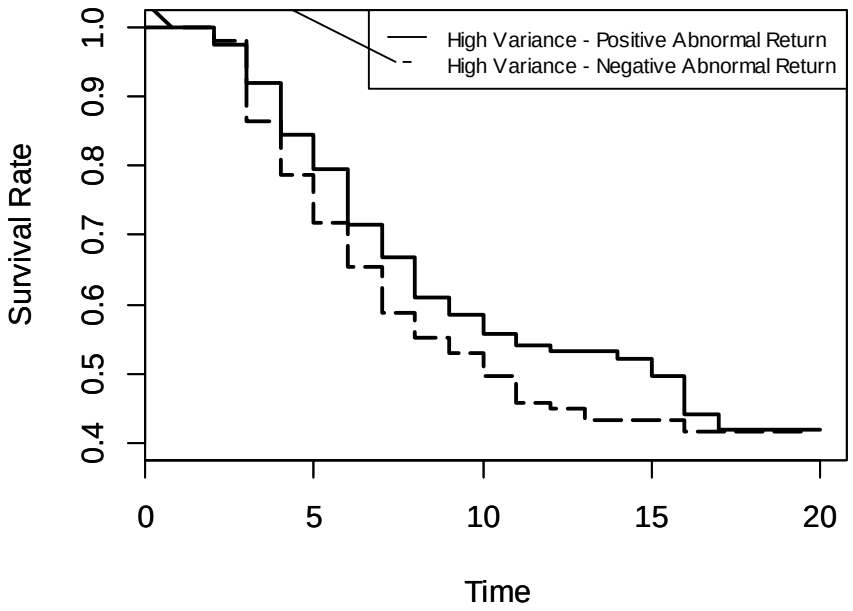

Figure 6: Divestment with Increased Performance Variation and Positive/Negative Returns

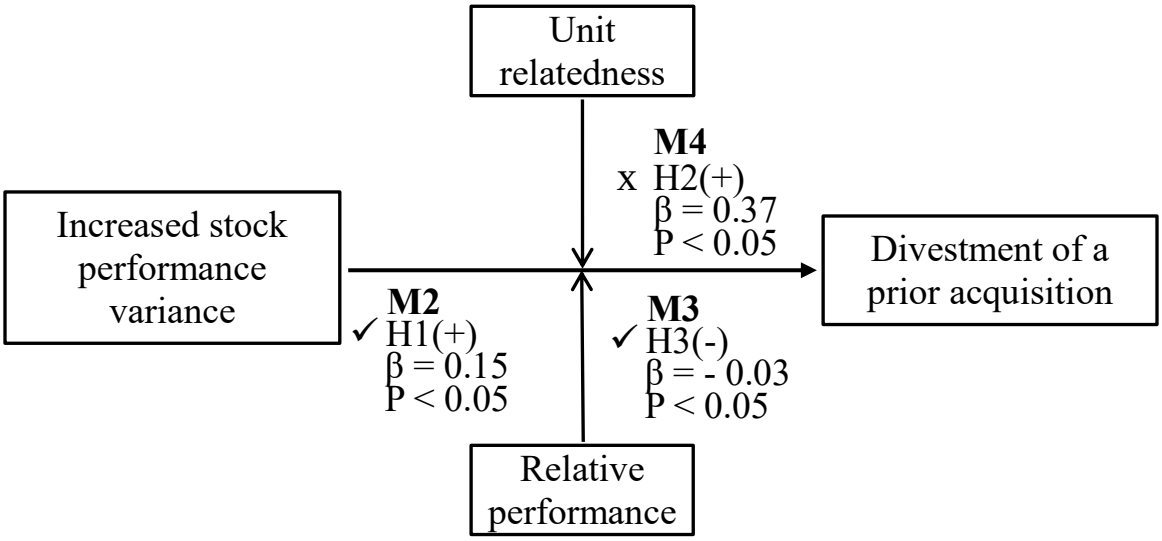

Figure 7: Summary of Results

APPENDIX B. TABLES

Table 1: Divestiture Antecedents

	Article	*Perspective*	*Antecedents*	*Findings*
Environment	Hamilton & Chow, 1993	Portfolio	General economy, Industry growth	General economy and industrial growth are determinants of firms' decision to divest. Firms reinvest divestment proceeds in areas where they have more capability or opportunity, and divesting firms experience higher growth.
	Zhou et al., 2011	Agency	Financial crisis	Greater uncertainty during financial crisis makes firms more conservative by minimizing their restructuring activities. While domestic family and institutionally owned firms reduce core unit both acquisitions and divestment, foreign firms incrementally raise divestments.
	Berry, 2013	Portfolio	Foreign markets: Growth, Policy stability, Exchange rate	International market growth and institutional and exchange rate stability are significant predictors of firms divesting international units based on performance and relatedness. In countries with lower stability in exchange rate and policy, US firms tend to sell better performing unrelated units. A negative performance-divestment relation exists among related units.
	Song, 2014	RBV	Labor cost, Country risk, Exchange rate	MNCs are more likely to divest units in host countries with adverse macro environment reflected in country risk, exchange rate fluctuations, and labor costs. MNCs' trade flexibility in their network of foreign affiliates alleviates the impact of adverse environment on MNCs divestitures.
	Funk & Luo, 2015	TCE	Standardization	Industry standardization reduces the cost of market transactions and barrier to entry, driving vertical divestitures over firm value chains.
	Durand & Vergne, 2015	IM	Stigmatized industry	A stigmatized industry increases the likelihood of divestment as part of firm impression management programs, when facing high risk of media attack.
	Younkin, 2016	Institutional	Competitor actions	Industry-wide institutions and competition drive divestitures. Firm characteristics moderate the impact of industry on divestitures. In particular, newer, larger, and under-performing firms are more sensitive to their peers' divestment behaviors.

Table 1 (continued)

		Article	*Perspective*	*Antecedents*	*Findings*
Firm	Governance	Feldman et al., 2016	Agency	Family ownership, Family CEO	Family firms pursue multiple objectives beyond maximizing value, and they are less likely than non-family firms to undertake divestitures, especially when managed by family rather than non-family-CEOs
		Chiu et al., 2016	RBV (KBV); Portfolio	New CEO origin	New internal and external CEOs differently affect restructuring strategies. While new insider CEOs are associated with larger scale divestments, outsiders tend to carry out divestitures with larger scope.
		Feng et al., 2015	Agency	CEO compensation	Level of CEO equity incentives is positively associated with corporate spin-offs.
		Nguyen & Rahman, 2015	Agency	Board compensation Block-holders	Board incentive compensation and ownership concentration, through block-holding, align shareholders' and board interests, raising the likelihood of proactive divestments.
		Feldman, 2014	BTOF; RBV	CEO tenure	New CEOs are more likely to overlook tacit knowledge embedded in legacy businesses and divest them, resulting in lower 4 year post-divest performance compared to firms not divesting their legacy business.
		Nguyen et al., 2013	Agency (type 2)	Block-holders	Presence of major block-holders, especially family block-holders, increases the likelihood of value creating divestitures through balancing the power between different owners.
		Praet, 2013	Agency	Family ownership, Family CEO, Founder CEO, Duality	An inverted U-shape relationship between family ownership and the likelihood of firms to divest exists due to family owners stronger socio-emotional ties with the firm. However, founders are less bounded by emotions, so active founders increase the likelihood of divestment.
		Ahn & Walker 2007	Agency	Board composition	More outsiders on the board and smaller board size, as well as younger and more heterogeneous board members, are associated with higher corporate spin-offs.
		Shimizu & Hitt, 2005	Cognition	New CEO, Outsiders in board	Firm age and size are sources of organizational inertia, which deter firms from divesting poor performing acquisitions. However, new CEO and outside directors raise the likelihood of firms divesting poor performing acquisitions.

Table 1 (continued)

		Article	*Perspective*	*Antecedents*	*Findings*
Firm	Strategy	Chang et al., 2015	N/A	Over diversification, Global expansion	Efficiency improving divestments can fix diseconomies of scale driven by lack of coordination, control, and motivation, as well as poor communication.
		Berry, 2010	Portfolio	R&D intensity, Global expansion	Low cost production and new market opportunity in foreign countries encourage firms to divest their domestic businesses and reinvest the proceeds in international markets.
		Bergh et al., 2008	Information asymmetry	Diversification	Level of diversification and business units' relatedness to other divisions directly influence firms' decision to divest and type of divestiture. More diversification is associated with sell-off, while more unit relatedness is associated with spin-offs.
		Bergh & Lawless, 1998	TCE Portfolio	Diversification	Degree of diversification predicts portfolio restructuring behavior in response to environmental uncertainty. Highly diversified firms divest and acquire when uncertainty increases and decreases, respectively. However, firms with lower levels of diversification react in the opposite way.
	Resource	Peruffo et al., 2017	Org. learning	Experience	Divestiture experience increases the likelihood of subsequent divestment. Parent's prior performance and size lower the learning effect of past experience.
		Meschi & Metais, 2015	Org. learning	Experience	While firms show learning from minor failures, major acquisition failures negatively affect future acquisition performance, resulting in more divestiture of acquired units. In cases of cross-border acquisitions, experience with the host country intensifies the negative learning effect of major failures.
		Humphery et al., 2014	Org. learning	Experience	Divestiture experience enhances the likelihood of firms divesting non-core, distant, and underperforming units.
		Bergh & Lim 2008	Org. learning	Experience	Recent and heterogeneous experience spurs spin-offs while older and more homogeneous experience fosters sell-offs.
		Shimizu, 2007	Prospect theory; BTOF	Slack Financial	A combination of prospect theory, behavioral theory and threat rigidity thesis, is needed to explain the decision to divest poor performing prior acquisitions.
		Shimizu & Hitt, 2005	Cognitive inertia	Experience	Divestiture experience raises the likelihood that firms divest poor performing acquisitions.
		Capron & Mitchell, 2001	RBV; Sunk cost	Asset redeployability	Divestiture is an outcome of post-merger asset redeployment. Strategic similarity spurs larger post-merger divestment from target.

Table 1 (continued)

		Article	*Perspective*	*Antecedents*	*Findings*
Firm	Performance	Kuusela et al., 2016	BTOF	Low performance	Performance below aspiration determines direction of strategic change. Larger gaps push towards resource freeing divestitures, whereas, smaller gaps drive for resource consuming acquisitions. Available financial slack weakens this relationship by increasing acquisitions and reducing divestments.
		Vidal & Mitchell, 2015	RBV, BTOF, Prospect theory	Performance	Performance relative to the aspiration level determines divestiture type and volume. Rising performance in high performing firms drives more proactive, partial rather than full, divestitures for further growth investments.
		Decker & Mellewigt, 2012	Portfolio	Prior performance	Strategic intent underlying divestment moderates the antecedent-divestment likelihood relation. While firm low performance predicts defensive divestments, it is not significant for divestments with the intent of change.
		Shimizu, 2007	Prospect theory, BTOF	Financial performance	Prior acquired unit low performance and failure to fix low performance result in different divestment behavior at different levels of firm performance.
		Hayward & Shimizu, 2006	Prospect theory	Financial performance	Shorter CEO tenure, as well as higher overall firm performance and slack resources, foster divestment of poor performing acquired businesses.
Divested Unit		Wang & Jensen, 2019	Corp. identity, Portfolio	Performance	Firms restructure business portfolios to present a coherent identity, suggesting status inconsistent units are more likely to be divested.
		Jun et al., 2017	RDT; Portfolio	Sales market periphery/overlap	Peripheral and overlapping sales markets reduce unit relative power within the larger business portfolio of a parent and increase the likelihood of unit divestiture.
		Lieberman et al., 2016	RBV; Sunk cost	Relatedness	Asset redeployability reduces the cost of both exit from and entry to a new business, increasing the likelihood of divestment.
		Norback et al., 2015	Industrial organization	Size	Among large enough divestment alternatives in same region, MNCs are more likely to divest smaller affiliates and invest the proceeds into larger ones.
		Xia & Li, 2013	RDT	Relatedness, Power	Mutual dependence and a unit power, as reflected in its post-merger alliances and acquisition activities, reduce the likelihood of divesting an acquired unit.
		Shimizu, 2007	Prospect theory, BTOF, threat rigidity	Performance, Relative size	Divestitures are multifaceted behaviors driven by various factors at different levels. Unit performance and its relative size help determine the likelihood a poor performing acquired unit will be divested.
		Shimizu & Hitt, 2005	Structural inertia	Relative size, Performance change	Acquired units size relative to the acquirer and improvement in its performance can lower the likelihood of its divestment.

Table 1 (continued)

	Article	*Perspective*	*Antecedents*	*Findings*
Divested Unit	Schlingemann et al., 2002	Portfolio	Liquidity	Liquidity outweighs performance in determining divestment likelihood of assets.
	Chi, 2000	Real options theory	Option price set (ex-ante/post), Growth, Value change	Partners' decision to divest a JV depends on negotiated contract terms, JV's expected growth, and value change. When purchase price (equivalent to call option strike price) is set ex-post, partners' divergent expectations of JV's growth and value volatility raise the chance of divestment.
	Hamilton & Chow, 1993	Portfolio	Performance	Unit low financial performance is the most significant factor associated with likelihood of divestment.
Acquirer	Kaul et al., 2018	Corporate Governance	Acquirer-unit superior strategic fit	Private equity firms systematically target firms that fail to realize full potential under public ownership. PEs correct underinvestment in units outside of the core area of public firms and improve governance of weak managerial incentives.
	Tong et al., 2015	RBV, TCE	Acquirer's resource and reputation	Executives prefer forming JV with a multinational firm when the MNC possess uniquely valuable resources and capabilities than divestment. However, when there is hazard of opportunistic behavior, divestment to MNC's is more likely.
Innovation	Kaul, 2012	RBV	New technology	Technology innovation by firms or their rivals drives divestment of non-core businesses and complementary resource seeking acquisitions as part of resource redeployment into new markets. Excess financial resources spur acquisitions.

Table 2: Divestiture Process

		Article	*Perspective*	*Findings*
Decision Making		Nees, 1978	Decision making process	Develops a decision-making framework composed of four phases of identification, development, selection, and implementation. Affected by personal motivation, the identification phase triggers the awareness of stimuli. In the development phase, the rationally bounded problematic search process takes place leading to rationalization. Selection phase entails selection related political behavior.
		Oakley-Bogdewic & Osman, 2015	Decision making model	Recommends firms view divestments as opportunities, design reward systems to incentivize accountability and measurable outcome, and employ divestment panels.
	Decision maker	Ghertman, 1988	Portfolio	A hierarchical pattern in divestiture decision making among multinationals (MNCs) exists with decisions made at one level above the divested unit. Corporate headquarters decide on divesting international subsidiaries, and subsidiaries make sub-units divestiture decisions.
		Brauer, 2009	Contingency	Develops a typology of 4 classes of divestitures over two dimensions of corporate and unit managers' involvement in divestiture decision making and execution process.
		Burgelman, 1994	Intra-organization ecology	Examines the role of internal selection environment of a firm on its decision to exit a business. Intel's internal selection environment, mainly driven by its mid-level managers, enabled it to conquer inertia and exit its area of core competency (memory) to invest in microprocessors.
		Burgelman, 1996	Evolutionary theory	Internal selection processes, formed by managers at different levels, is a key decision-making factor for a firm's long-term evolution. Internal selection processes drive corporate transformations and are more continuous and less centrally driven than the punctuated equilibrium model of change.
	Timing	Nees, 1983	N/A	Lengthy decision-making process deteriorates employees' morale and faith in the divestment decision. Divestment experience enables overcoming the resistance against decisions, makes the process shorter, and lessens the damage from a lengthy decision making process.
		Elfenbein & Knott 2015	Behavioral, IO, Agency	Decisions to divest are made an average of 3 years late in the banking industry. Biasedness towards positive results, ownership separation, and uncertainty about capabilities, underlie delayed divestments.
		Elfenbein et al. 2017	Behavioral	Managers' equity incentives and ownership stakes drive delayed divestment decisions by distorting managers' belief structure, making them feel over optimistic and discount negative news.
	Unit choice	McDermott 2013	N/A	Government intervention can influence firm divestment decision, or even reverse a decision to divest.
		Wan et al., 2015	BTOF, Identity	Divesting international unit depends on organizational image and identity. Parents less internationalized, from emerging markets, or with consistent growth are less likely to divest international affiliates.

Table 2 (continued)

		Article	*Perspective*	*Findings*
Mode	Spin-off / sell-off / closure	Nixon et al., 2000	N/A	Financial distress, CEO duality, more directors on the board, and the smaller unit size are associated with higher probability of choosing sell-offs.
		Bergh & Lim, 2008	Org. learning	More distant and accumulated repetitive experience is associated with a larger likelihood of sell-offs. Conversely, more recent and heterogeneous experience drive choice of spin-offs.
		Bergh et al., 2008	Agency (Information asymmetry)	Firms use different modes of divestitures to transform information asymmetry from firm diversification and relatedness into financial gain. Low levels of diversification and unit relatedness are associated with spin-offs, and high diversification and unit un-relatedness are associated with sell-offs.
		Bergh & Sharp, 2015	Agency	Blockholders and unit size predict type of divestiture. Larger equity ownership by outside blockholders and larger unit size drive spin-offs. Sell-offs are common with smaller units and blockholders.
		Prezas & Simonyan, 2015	Information asymmetry	Corporate's market value relative to its intrinsic value, unit performance relative to its potential capacity, and market optimism at the time of divestiture influence choice of spin-, or sell-off. Over-valued firms, tend to sell-off under-performing units during periods of investors' optimism.
		Ushijima & Iriyama 2015	N/A	Low performing firms use closures to sell inefficient businesses and slightly improve profitability. Sell-offs of liquid and separable units raise funds for other investments.
		Hildebrandt et al., 2018	Contingency, Portfolio	No single best business portfolio restructuring strategy exists. Firms' performance and level of diversification, as well as industry uncertainty and change determine divestment type and outcome.
	Sequential	Reuer & Shen, 2004	Information asymmetry	Intangible resources owned by a firm and geographical dispersion of an industry increase the likelihood of staged divestiture through IPOs in private firms. Strategic alliances negatively moderate this relationship by lowering information asymmetry.
		Damaraju et al., 2015	Real options	Ranks preferred modes of divestitures under unit's environmental uncertainty as: 1) non-divest; 2) complete divest; and 3) staged divestiture (e.g., spin-off or carve-out).
		Lehmberg, 2016	RBV	Cooperative arrangements and TMT succession precede multi-staged divestments among firms facing exit barriers. Cooperative arrangements facilitate vertical disintegration by maintaining firm commitments to customers through outsourcing and technology transfer.
		Ma & Wang, 2018	Information asymmetry	Stakeholders' asymmetric knowledge about a unit and its future profitability, as well as their risk attitudes, determine choice of divestment modes. For example, firms choose public divestitures (spin-offs and carve-outs) to establish the market value of a subsidiary prior to complete unit sell-off

Table 2 (continued)

		Article	*Perspective*	*Findings*
Implementation	Management involvement	Nees, 1981	N/A	Corporate managers make divestment decisions, but unit managers must be fully involved in the implementation process as partners. Corporate managers' attitudes determine whether unit managers cooperate actively or resist aggressively.
		Brauer, 2009	Contingency	Develops a typology of 4 classes of divestitures over two dimensions of corporate and unit managers' involvement in divestiture decision making and execution process. Different types of divestitures are categorized into various classes based on environmental contingencies and divestiture features like drive force, mode, and relative size. For example, spin-offs are driven by external sources (shareholders) and embody a high degree of firm and unit managers' involvement.
		Moschieri, 2011	Agency	Active participation in the divestment process enhances unit managers' perceptions of opportunity and a unit's post-divestiture performance. Incentives and authority on hiring are effective means of attracting divisional manager involvement in the process.
	Communication sense-giving	Gopinath & Becker, 2000	Behavioral	Communication of manager insights underlying a divestiture decision and subsequent actions leads to higher employee perceptions of procedural justice regarding both the divestiture decision and layoffs. Perception of justice enhances employee trust and commitment to the new firm.
		Corley & Gioia, 2004	Identity	As part of the divestiture process, managers need to actively provide sense giving to address identity ambiguity arisen from change overload.
		Lensges et al., 2016	Identity	Changed leadership facilitates both identification and de-identification processes of employees' identity evolution. Experience of resource constraints, injustice, and lack of identification spur de-identifying. Expectations of expanded resources and improved justice spur identifying with the new firm.
	Parenting	Moschieri & Mair, 2012	Portfolio, Real options	Post-divestiture relations serve as a call option, allowing a parent firm to re-purchase a divested unit.
		Cheyre et al.; 2014	RBV	Divested units cannot bring all the required work force from the parent firm, making the assessment and recruitment of employees an important part of the divestiture process.

Table 3: Divestiture Outcomes

		Article	*Perspective*	*Findings*
Market Performance	CAR	Chen & Feldman, 2018	Agency	Activist investor-led divestitures outperform manager-led divestments, implying that activist investors fulfill efficient governance by reinforcing value unlocking strategies that managers may not otherwise pursue.
		Finlay et al., 2018	Signaling Theory	Financial distress at firm, industry, and macro level, differently impacts investors' perception of and reaction to divestment announcement. Industry-wide distress represents fire sale associated with lower market response. Concurrent firm- and macro-level distress represent financing hypothesis associated with larger market response.
		Dasilas & Leventis, 2018	N/A	Equity carve-outs are associated with excess short-term return around the announcement date, but negative long-term buy and hold return for up to 24 months. Minority shareholder protection strengthens the short-term return.
		Chai et al., 2018	N/A	There is positive short term and long term (up to 24 months) market response to spin-offs in Australia.
		Golder et al., 2017	BTOF	Investors perceive restructuring decisions as part of managers' problemistic search to address a problem, and react accordingly. Divestment is viewed as a corrective action for low performers; whereas, it signals an issue unknown to public for high performers.
		Lee & Park, 2016	N/A	A negative abnormal return for announcing divestment of foreign affiliates among Korean firms. The negative return is more pronounced in cases of divesting units in developed host countries or by poor performing firms. Corporate governance moderates this relationship, as firms with large institutional owners show positive return.
		Bingham et al., 2015	Org. learning Dynamic capabilities	Experiential learning transfer across mergers, alliances, and divestiture activities, positively affects divestment performance. Therefore, firms need to employ a balanced approach to restructuring activities to enhance growth.
		Ushijima & Schaede, 2014	N/A	Subsidiary sales in Japan signal negative information regarding the future performance of the selling firm, arising unfavorable market reaction at announcement, but acquirers gain positive abnormal returns.
		Depecik et al., 2014	Portfolio (brands)	Wealth consequences of brand divestitures is a function of relatedness and geographic scope. While in most cases brand divestments destroy value, divesting geographically restrained non-core brands generates value.
		Humphery *et al*. 2014	Org. learning	Divestiture experience positively associated with announcement returns. Divestiture experience enables better choice of unit and timing over merger waves, resulting in larger deal premiums and divestiture performance.
		Eng et al., 2013	N/A	Negative announcement and post-divestment CARs for selling non-core (real estate) properties of firms during the recession, implies that sales signal financial distress.
		Nguyen, 2013	Portfolio (fin. distress)	Value creation is not the same across all divestments. If financial distress drives portfolio restructuring, only over-diversified, high leveraged firms, with low performance and interest coverage ratio, show positive performance.

Table 3 (continued)

		Article	*Perspective*	*Findings*
Market Performance	CAR	Borisova et al, 2013	RBV	The larger positive announcement abnormal returns for liquidity seeking divestments by U.S. firms with financial constraints to international firms than to domestic firms is intensified by buyers from better home economies.
		Brauer and Schimmer 2010	Principle of internal consistency	A programed series of divestments and sufficient time intervals between serial divestments lead to larger announcement returns.
		Brauer and Wiersema 2012	Institutional	A U-shaped relationship between divestment's position on a wave and performance exists. The position in a wave signals divestment decision's quality; whether an independent strategic choice or just imitating peers.
		Peruffo *et al*. 2014	Agency (type 2) (information asymmetry)	Information asymmetry negatively affects divestment announcement returns. Meanwhile, family ownership worsens the negative impact by making minority shareholders vulnerable to family owners' opportunistic behavior
		Hite & Owers 1983	Partly contracting efficiency	Strategic intent mainly predicts spin-off's return. Spin-offs that facilitate future mergers or specialization are associated with positive return, while spin-offs driven by regulatory forces are associated with negative return.
		Bergh *et al.* 2008	Agency (information asymmetry)	Mode of divestment directly mediates the impact of unit relatedness and firm level of diversification on divestiture announcement return.
		Laamanen and Brauer 2014	RBV	For acquirers of divested assets, bargaining power determines returns and it is impacted by type of the divested assets (business unit, private firm, and public firm), seller's financial distress, and fit to the acquirer.
	Return on Stock	Feldman 2015	RDT, TCE	Presence of dual directors in a spun-off unit is associated with larger stock returns to both parent and spun-off unit, due to higher potential for collaboration and resource transfer.
		Feng et al., 2015	Agency	CEO equity incentives align their interests with those of the shareholders, leading to more efficient spin-off decisions and larger 3-year buy and hold abnormal return (BHAR) post-divestment.
		Huang, 2014	KBV, BTOF	CEOs tend to divest divisions they are less experienced in, resulting in better match between CEOs' expertise and retained lines of businesses and managers with more expertise are associated with higher gains.
		Semadeni, 2011	TCE, Agency	A moderate level of parental control and ownership is most advantageous to spun-off unit performance.
	Market Value	Curi & Murgia, 2018	N/A	Financial crisis reverts the effects of diversification on financial conglomerates' valuation, with divestment of related units adding to the market valuation of financial firms during financial crisis.
		Chesbrough 2003	Agency	Insider CEO and large ownership stakes restricted Xerox spun-off units' search scope, negatively influencing units' market value. VC investors on the board may alleviate negative impacts of excessive parental control.

Table 3 (continued)

		Article	Perspective	Findings
Accounting Performance	EPS	Bergh & Lim 2008	Org. learning	Contemporaneous experience is associated with higher post spin-off performance. In contrast, distant and accumulated repetitive experience is associated with larger post sell-off performance.
	NM	Zschoche, 2016	RBV	Withdrawing countries from a production network damages performance by negatively affecting operational flexibility and interrupting established production processes and routines. Efficiency gains from more favorable labor cost conditions across remaining locations; however, alleviate negative impacts.
		Feldman, 2014	BTOF	Tacit knowledge embedded in the interconnections and spillovers between the legacy business and other business units tends to be overlooked. Lower performance experienced by firms divesting their legacy businesses after divestiture. Shorter CEO tenures and unit relatedness exacerbate negative results.
	ROA	Feng et al., 2015	Agency	Higher CEO equity incentives prior to spin-offs aligns CEO's and shareholders' interests, and results in higher post-spin-off performance.
		Rubera & Tellis, 2014	Agency	Strategy mediates the effect of agency mechanisms on performance through resource allocation. Marketing spurs faster more secure returns, while R&D driven innovation is more ambiguous and time taking. Use of proceeds—paying out rather than retaining—moderates this relationship by enhancing the post-divest performance.
		YM et al., 2013	Agency	Efficiency enhancing divestments of inefficient assets, refocusing divestment of unrelated units, and fund raising divestment of liquid assets by financially distressed firms are associated with larger post divestiture performance among Malaysian firms. However, Malaysian firms tend to divest core units when financially distressed. This indicates a preference for diversified structure, or reflect country level differences.
		Bergh & Lim, 2008	Org. learning	Contemporaneous divestment experience is associated with higher post spin-off ROA. In contrast, distant and accumulated repetitive experience is associated with larger post sell-off EPS.
		Love & Nohria, 2005	RBV	Pro-activeness and relative size of the restructuring, as well as the level of slack resources before the restructuring, have a direct positive impact on restructuring performance. Moreover, pro-activeness and scope of the restructuring moderate the relationship between slack resources and performance.
	Operating Income	Brauer et al., 2014	Org learning	Heterogeneous and unrelated direct experience are negatively linked to performance. However, vicarious learning from advisors is positively associated with performance.
		Humphery et al. 2014	Org learning	Divestiture experience is positively associated with post-divestiture performance. Prior experience enables better divestment decisions regarding unit selection, timing, and efficient reinvestment in expanding retained operations.

Table 3 (continued)

		Article	Perspective	Findings
Growth	Unit	Chen et al., 2013	Auction theory	Transfer of underperforming mutual funds from broad financial institutions to more focused and capable entities, significantly improves divested units' risk-adjusted returns, efficiency, and asset growth.
		Rose & Ito 2005	TCE	Spin-offs enable value maximization in parent and child firms through efficient governance. Spun-off units grow faster than their parents in sales over 10 years. Only unrelated units outperform parents on profitability growth.
		Sapienza *et al.* 2004	Org learning	An inverted U-shaped relationship between parent and spun-off unit knowledge relatedness and unit's post-spin off sales growth exists. Extremely high or extremely low knowledge relatedness are both detrimental to unit's growth.
		Chesbrough 2003	Agency	Appointment of insider CEO and holding large ownership stakes in spun-off units by parents restrict units' search and growth. Presence of VC investors in the board alleviated the negative impact of ownership on unit growth.
		Dahlstrand, 1997	N/A	In first 10 years, spun-off and non-spun-off new entrants are alike in growth. After that, spin-offs grow faster than non-spin-offs due to unit's internationalization and acquisitions, and not the technology inheritance from parents.
	Firm	Vidal & Mitchell, 2018	RBV; dynamic capability	Divestments exacerbate low performing firms' weaknesses, while reinforcing high performers' strengths. Among low performers they are part of downward spiral, increasing risk of takeover. Among high performers, they free financial resources and managerial capabilities reinvestable in future growth and performance improvement.
Innovation		Moschieri & Mair, 2017	Real Option Theory	Corporations use staged divestitures as a real option in pursuing corporate entrepreneurship strategies. New product development drives re-acquisition; whereas, new market and network development drives full divestment.
		Borisova & Brown, 2013	RBV, Information asymmetry	A strong positive relationship between cash proceeds from asset sales and corporate R&D investments among new, small, and low payout financially constrained firms exists due to higher intangible investment cost of capital.
		Moschieri & Mair 2011	RBV	Post-spin-off parent-unit relation spurs innovation outcomes by facilitating inter-firm resource transfer. Gives unit access to parent's complementary resources, and parent access to the innovation developed at the divested unit
		Parhankangas & Arenius 2003	RBV, RDT	Presents a taxonomy of three types of spin-offs, launched with the purpose of generating innovations—technology, market, and structure—upon divested units' integration with and relatedness to their parent firms.
		Chesbrough 2002	Inertia (structure/ cognitive)	Business model is crucial in determining the success or failure of innovation in commercialization phase. A new technology may succeed in generating economic value under a different business model in a spun-off unit.
		Hitt et al. 1996	Portfolio	Portfolio restructuring activities absorb managerial attention, and redirect firms' internal control focus from strategic to financial. Active portfolio strategy reduces both external and internal innovation outcomes.

Table 3 (continued)

		Article	Perspective	Findings
Other Outcomes	Tobin's Q	Feldman *et al* 2016	Agency	Family businesses pursue objectives beyond mere financial performance due to the socioemotional wealth effects. Family firms are less likely to divest, but if they do, they outperform non-family firms post-divestiture.
	Market assessmen	Feldman 2015	Information asymmetry	Spin-offs of the legacy units result in the rotation of covering analysts by inducing them to revisit their earlier decisions to cover the pre-spin-off firm, and in turn, improving the analyst's research quality on diversified firms.
		Feldman 2012	Information asymmetry	Divestiture complexity and analysts' prior exposure to the firm have negative and positive impact on market forecast error of firms' EPS, respectively.
	Future M&A	Doan et al. 2018	Org learning (vicarious)	Firms learn from their divestment experience, and vicariously learn from the acquirers to whom they divest, to improve their future acquisition completion rate.
		Bertrand *et al.* 2014	Org learning	Divestiture experience is associated with enhanced future M&A activities. It also drives acquisition of riskier targets and paying less premiums.
	Manager incentive	Pathak et al., 2014	Agency	Firms tend to compensate uncertainties with higher total pay to CEOs. Prior firm performance, governance structure and industry dynamism moderate the relationship between divestiture intensity and CEO compensation.
	Pay & performance	Feldman 2015	Agency	Spun-off unit managers' compensation will be more aligned with performance compared to that of divisional managers before spin-off, especially when spun-off managers were divisional managers of spun-off unit, spun-off unit outperforms other units in the parent firm, and spun-off unit is unrelated to other units in the parent firm.
	Productivity	Chemmanur et al., 2014	Agency, RBV	Spin-offs are associated with cost saving and not sales increase driven productivity enhancement in both parents and spun-off units post-divestiture. Productivity improvements arise primarily in plants not sold off post-spin-off immediately after the divestment; however, in later sold-off spun-off units, no productivity improvement observed until after the take-over take place. Unrelated spun-offs show greater productivity gains compared to related units.
		Engel & Procher, 2013	RBV	Exports and FDI are complementary rather than substitutes in contributing to home country productivity of service and manufacturing firms. The complementarity is stronger for high-tech industries vs. low-tech industries, implying that high-tech firms opt more for home centralization or vertical specialization than low-tech firms do.
	Price	Cohen, 2013	Negative synergy, Refocusing	Vertical disintegration in the presence of market competition results in improved efficiency and consumer surplus (lower prices).

Table 4: Means, Standard Deviations and Correlations

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Divest	0.043	0.027	1												
2. ROE	-0.066	8.743	0.002	1											
3. Cash Flow	1.726	4.745	-0.018	0.014	1										
4. Leverage	0.533	0.705	0.017**	-0.037**	0.011	1									
5. Q	1.928	1.378	-0.091**	-0.004	0.044**	0.002	1								
6. Size	7.329	2.285	-0.011**	0.004	0.621**	0.017	-0.034**	1							
7. Alpha	0.004	0.021	-0.054**	0.028**	-0.047**	-0.127**	0.284**	-0.046**	1						
8. Acq.Exprnce	1.858	1.026	0.028**	0.018	0.42**	0.025**	0.031**	0.149**	-0.034**	1					
9. Related	2.002	1.251	-0.001	0.007	0.01	-0.055**	0.103**	-0.038**	0.018	-0.094**	1				
10. Dvst.Exprnce	2.042	3.76	-0.026**	0.016	0.477**	0.063**	0.017	0.207**	-0.046**	0.359**	-0.091**	1			
11. CAR11	0.011	0.095	-0.011	0.001	-0.056**	0.015	-0.038**	-0.025**	0.025**	-0.076**	-0.004	-0.007	1		
12. Stock Return	0.001	0.038	-0.01**	0.022*	-0.023**	-0.046**	0.117**	-0.035**	0.551**	-0.008	0.008	-0.019*	0.023**	1	
13. Variation	0.02	0.053	0.031**	-0.019*	-0.09**	0.04**	0.09**	-0.022**	0.194**	-0.081**	0.032**	-0.066**	0.034**	0.343**	1

"*" and "**"Indicate 0.1 and 0.05 significance levels, respectively

Table 5: Cox Regression Results

	M1	M2	M3	M4	M5
ROE	- 0.009 0.990 (0.051)	- 0.005 0.995 (0.054)	- 0.004 0.995 (0.057)	- 0.005 0.995 (0.054)	- 0.004 0.995 (0.056)
Cash Flow	0.102 1.107 (0.092)	0.091 1.095 (0.092)	0.091 1.096 (0.092)	0.086 1.090 (0.091)	0.086 1.090 (0.091)
Leverage	0.883*** 2.418 (0.201)	0.823*** 2.278 (0.201)	0.797*** 2.216 (0.203)	0.819*** 2.267 (0.202)	0.794*** 2.213 (0.203)
Q	- 0.032 0.968 (0.079)	-0.028 0.972 (0.077)	-0.039 0.962 (0.076)	-0.028 0.972 (0.077)	- 0.039 0.960 (0.076)
Size	- 0.230*** 0.794 (0.085)	- 0.180** 0.834 (0.087)	- 0.170* 0.843 (0.087)	- 0.175** 0.839 (0.087)	- 0.165* 0.847 (0.087)
Alpha	- 0.180** 0.835 (0.070)	- 0.167** 0.846 (0.068)	- 0.165** 0.848 (0.067)	- 0.161** 0.851 (0.067)	- 0.159** 0.853 (0.067)
Acq.Experience	- 0.074 0.929 (0.070)	- 0.077 0.926 (0.070)	- 0.073 0.930 (0.070)	- 0.081 0.921 (0.070)	- 0.077 0.926 (0.070)
Related	0.027 1.027 (0.192)	0.044 1.045 (0.193)	0.050 1.051 (0.192)	- 0.009 0.99 (0.198)	- 0.005 0.994 (0.199)
CAR11	- 0.094 0.910 (0.062)	- 0.093 0.911 (0.062)	- 0.091 0.913 (0.063)	- 0.096 0.908 (0.062)	- 0.093 0.910 (0.064)
Dvst.Experience	- 0.103 0.902 (0.089)	- 0.100 0.905 (0.088)	- 0.098 0.906 (0.089)	- 0.097 0.907 (0.088)	- 0.096 0.908 (0.089)
Stock Return	- 0.280** 0.756 (0.117)	- 0.297*** 0.743 (0.109)	- 0.282** 0.754 (0.114)	- 0.320*** 0.726 (0.109)	- 0.293** 0.746 (0.114)
Stock Return : T	0.034** 1.035 (0.017)	0.028* 1.028 (0.015)	0.031* 1.031 (0.016)	0.029* 1.029 (0.016)	0.030* 1.031 (0.016)
Variance		0.152*** 1.164 (0.046)	0.242*** 1.274 (0.062)	0.161*** 1.175 (0.054)	0.246*** 1.279 (0.067)
Variation: Stock Return			- 0.033** 0.967 (0.016)		- 0.036** 0.964 (0.017)
Variation: Related				0.400*** 1.491 (0.149)	0.397** 1.487 (0.157)
LR **Wald test** **N** **PH**	66.45 73.2 6973 0.57	74.43 86.6 6973 0.50	77.76 93.67 6973 0.73	81.79 96.52 6973 0.68	85.12 104.3 6973 0.83

Note: Values from top to bottom in each cell represent coefficients, hazard ratios, and errors (in parenthesis).
***, **, * reflect statistical significance at 0.01, 0.05, and 0.1 levels, respectively.

APPENDIX C. SUPPLEMENTARY FIGURES

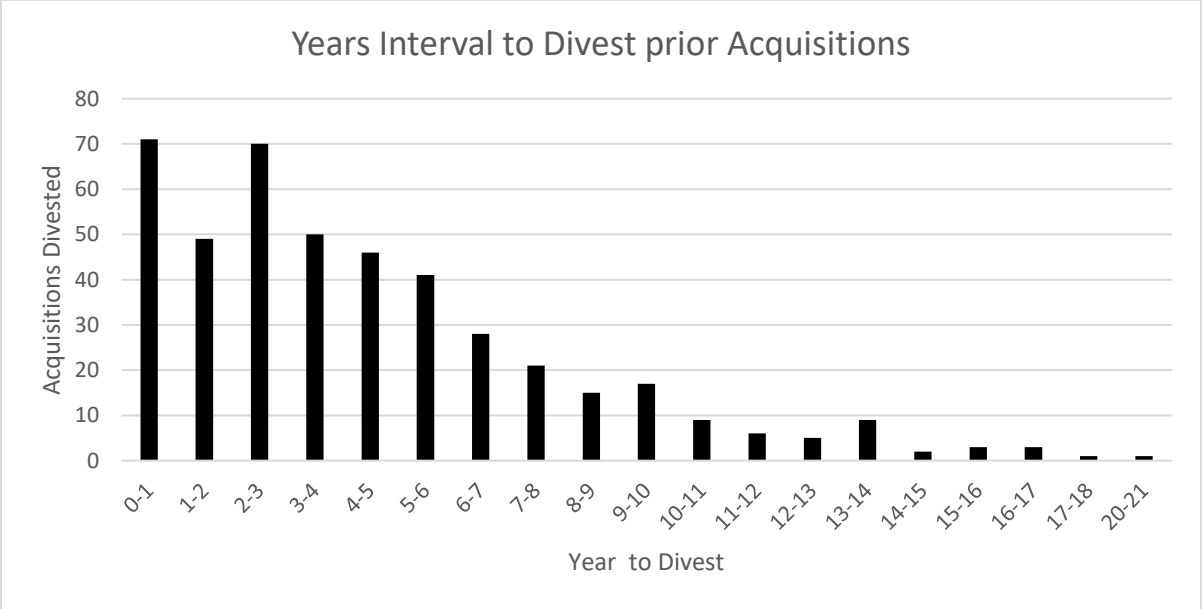

Figure 8: Distribution of Years between Acquisitions and Divestments

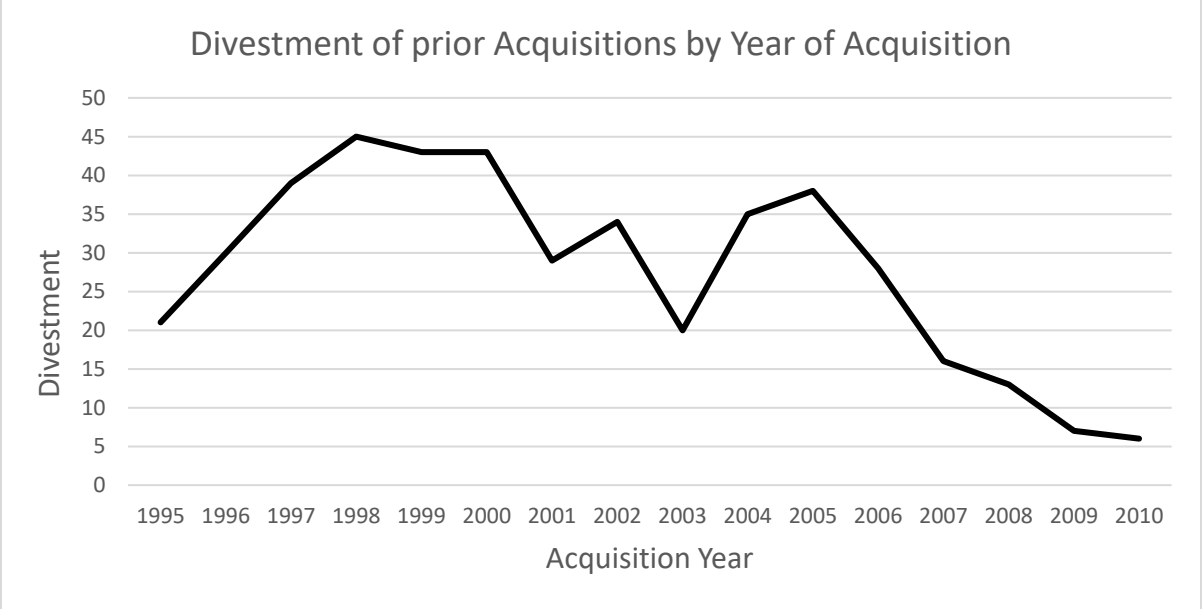

Figure 9: Year Distribution of Divestments of Prior Acquisitions by Year of Acquisition

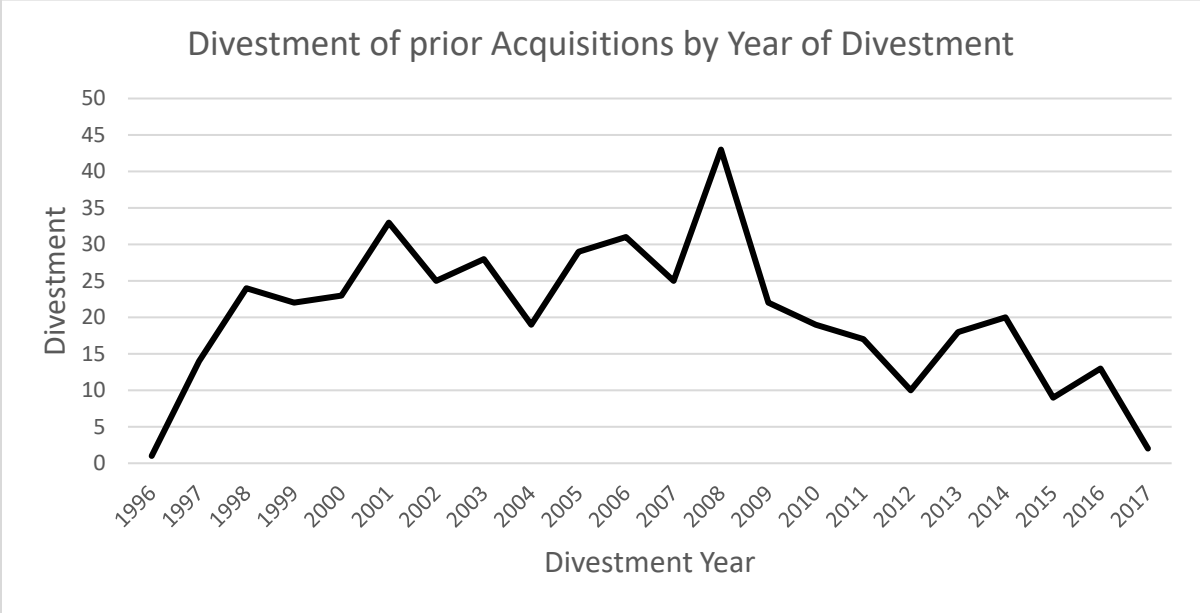

Figure 10: Year Distribution of Divestments of Prior Acquisitions by Year of Divestment