



A Review of the Internal Capital Allocation Literature: Piecing Together the Capital Allocation Puzzle

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Allocating internal financial capital represents a key task for managers of multidivisional corporations. This has led to a wealth of research and theorizing about capital allocation and whether or not managers allocate capital successfully. However, capital allocation research has diverged in a number of directions that reflect different and often incompatible perspectives, underlying frameworks, and outcomes. The result is a puzzle, wherein scholars have found little consistent substantive relation between capital allocation, business unit characteristics, and firm performance. Through our review, we seek to bring clarity to this puzzle by identifying problems in the literature and by offering a solution. We suggest problems in the literature stem from the disparate approaches scholars have taken when studying capital allocation, including assessments of what constitutes and prevents successful allocation. We begin by organizing these approaches into a framework that highlights key allocation strategies and the primary impediments to allocation success that scholars have used to build their models. We then suggest that managers may employ a number of allocation strategies and that scholars need to recognize that not all corporate managers employ the same strategy. We contend that a resurgence of obtrusive, qualitative, and multilevel studies may help explain why managers

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select one strategy over another. Ultimately, we recommend scholars delve into the black box of organizations to truly understand capital allocation.

Keywords: *capital allocation; internal capital market; capital allocation efficiency*

Allocating financial capital among internal business units is a key task for managers of multidivisional corporations. Corporate managers must navigate difficult and complex information in order to determine the best ways for corporate parents to allocate capital to their business units (Bolton & Scharfstein, 1998). The importance of capital allocation is not lost on either scholars or practitioners. Scholars from a variety of disciplines, including management (e.g., Arrfelt, Wiseman, McNamara, & Hult, 2015), finance (e.g., Glaser, Lopez-De-Silanes, & Sautner, 2013), accounting (e.g., Bushman, Piotroski, & Smith, 2011), and economics (e.g., Shin & Stulz, 1998) have examined capital allocation processes and internal capital markets. In addition, capital allocation has become one of the most ubiquitous concepts to emerge out of business schools, making it a staple in most MBA and consultancy programs.

Capital allocation refers to the investment of financial capital into the business units of a multidivisional organization (e.g., Arrfelt et al., 2015; Bardolet, Fox, & Lovallo, 2011). Thus, capital allocation represents a process where corporate managers determine where to allocate capital based on a variety of criteria. These criteria include, but are not limited to, industry or business unit characteristics (e.g., Bardolet et al., 2011), desires for growth (e.g., Arrfelt et al., 2015), opportunities for creating synergies (e.g., Bower & Gilbert, 2005), and need to reduce corporate risk to increase returns (e.g., Liebeskind, 2000). Accordingly, we are focused on the voluminous research examining the initial corporate capital allocation process only, and we are not focused on examinations of how business units themselves may allocate resources or budget capital (e.g., Bower & Gilbert, 2005; Collis, Young, & Goold, 2007).

Despite the attention directed toward understanding capital allocation and its outcomes, there remains confusion about the purpose of capital allocation and what constitutes successful capital allocation outcomes. Looking across the capital allocation literature, scholars offer incompatible perspectives about what drives managers' capital allocation decisions and what makes capital allocation an important element of firm performance. Further, scholars tend to use different approaches, assumptions, and quantitative measures to determine whether or not capital allocation is successful. Overall, this variety in how scholars view and study capital allocation has led to a literature where a number of fundamental questions remain lacking clear, consistent, and unambiguous answers. Two such questions stand out.

The first question concerns the strategy underlying capital allocation. What exactly are corporate managers trying to accomplish with their approach to capital allocation? The intended allocation strategy is often implicit in many examinations of capital allocation, leaving the reader to interpret the purpose from the theoretical lens being applied to the study. Here, we identify three theoretical motives behind capital allocation—maximization of business unit and firm growth (e.g., Arrfelt et al., 2015), risk mitigation (e.g., Matvos & Seru, 2014), and the exploitation of synergies through leveraging and sharing of capabilities and assets across business units (e.g., Bower & Gilbert, 2005). The first motive is referred to as winner picking (e.g., Stein, 1997), which involves an allocation strategy of selecting the business units with the best performance prospects and allocating capital in accordance with those prospects (e.g., Arrfelt et al., 2015; Duchin & Sosyura, 2013; Wulf, 2009). The second

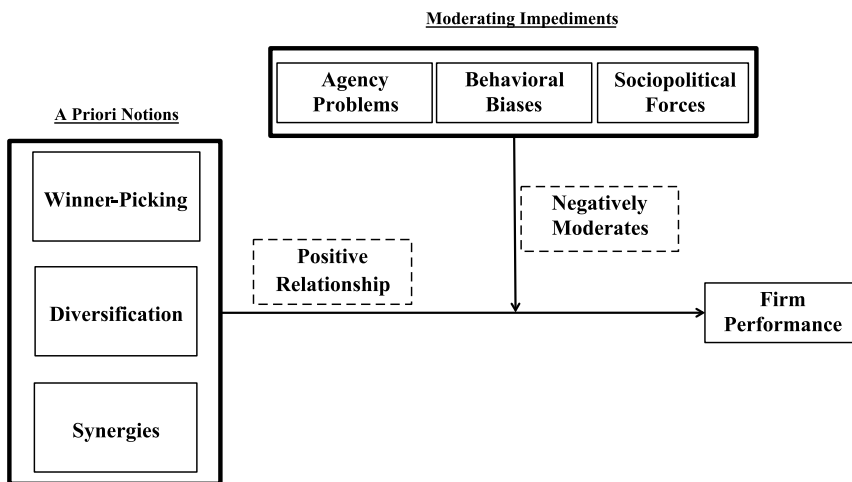
motive involves diversification. *Diversification* refers to an allocation strategy where corporate managers allocate capital to related or unrelated business units such that the firm can limit exposure to exogenous shocks to any given business unit or can maximize the scope of its product offerings (e.g., Lang & Stulz, 1994; Liebeskind, 2000; Shin & Stulz, 1998). The final motive and allocation strategy involves exploiting synergies among business units by sharing, lending, and leveraging resources, capabilities, and expertise between previously disparate businesses (e.g., Cremers, Huang, & Sautner, 2011; Williamson, 1991). Since all three allocation strategies reflect legitimate goals for capital allocation decisions, it is important to understand when and why one allocation strategy dominates.

The second question concerns the link between capital allocation and firm performance, including what impediments may lie between pursuing a particular allocation strategy and its success. Are managers successfully allocating capital? As we look across the capital allocation literature, we notice inconclusive findings about whether or not managers successfully allocate capital. The failure to find consistent positive performance implications for capital allocation has generated several explanations for this failure. We highlight three explanations for the lack of capital allocation efficiency. First, some scholars point to an agency problem with both divisional managers and corporate managers. Divisional managers may distort the information provided to corporate managers (Wulf, 2009; Zaks & Tsanakas, 2014), and corporate managers may allocate capital to increase their own compensation instead of firm performance (Scharfstein & Stein, 2000). A second explanation for the failure of capital allocation efficiency is that managers have behavioral biases and cognitive limitations, influencing allocation decisions in ways that interfere with successfully pursuing a given allocation strategy (Arrfelt, Wiseman, & Hult, 2013; Bardolet et al., 2011). Finally, scholars have also suggested that there are sociopolitical forces within the organization that may influence how managers allocate capital, which can interfere with the success of an allocation strategy (Glaser et al., 2013; Xuan, 2009).

Taken together, we suggest that the inability to clearly and consistently answer these two important questions represents a puzzle in the capital allocation literature. The two questions are also related in the sense that the intended strategy behind capital allocation is a prerequisite for providing a more definitive answer to whether or not allocation is successful. Without consistent answers to these questions and a failure to consider both simultaneously, scholars are left trying to piece together many integral aspects of the capital allocation process into complete understanding. There is confusion about what capital allocation motives and accompanying strategies managers may employ, how exactly managers pursue the strategies they select, and what outcomes result from different capital allocation strategies and corresponding situations. With so little consensus about many aspects of capital allocation, it should come as no surprise that scholars often fail to find systematic relationships between capital allocation decisions and firm outcomes. Because of these inconsistent relationships, scholars have subsequently suggested that managers do a poor job of allocating capital (Antle & Eppen, 1985; Arrfelt et al., 2015; Bardolet et al., 2011).

In this article, we seek to take the first steps in clarifying this capital allocation puzzle. We start by offering a systematic review of the capital allocation literature. In our review of the literature, we notice that in any given article scholars tend to employ distinct, a priori notions about what allocation strategy corporate managers pursue and thus what appropriate or successful capital allocation should look like. Scholars then build from their notions about the intended purpose of capital allocation to construct tests that presumably determine

Figure 1
A Model of Capital Allocation



whether or not capital allocation has been successful and what factors may have prevented managers from effectively allocating capital in cases of unsuccessful allocation (depicted in Figure 1). The literature implies that these a priori notions about the purpose of capital allocation, to some extent, determine whether the findings from their research support or challenge the effectiveness of capital allocation. For example, corporate managers pursuing risk mitigation by spreading their allocations around to increase diversification will probably not score very high on winner picking. Thus, scholars working from the notion that managers are trying to winner-pick and employ a corresponding framework will probably conclude unsuccessful allocation when in fact managers may very well achieve what they set out to do (i.e., risk mitigation). This has led to a fragmented and stagnant literature trapped by competing ideas about what strategies drive capital allocation, wherein scholars focus narrowly on their favorite notions relating to the role of capital allocation or the nature of organizations.

After reviewing the capital allocation literature, we offer suggestions about how future work can defragment the literature and create more cohesive scholarship. We posit that if scholars relax their a priori notions of intended allocation strategies, or at least recognize and account for competing managerial strategies, we can start to understand why corporate managers allocate the way they do and what they are trying to achieve. We therefore suggest that scholars should reconfigure their studies to better fit with what managers are actually attempting to do. After all, the actual outcome of capital allocation is likely a function of a manager's intended strategy and the forces that may distort or influence that strategy. We build on some of the seminal capital allocation studies (e.g., Bower, 1970; Bower & Gilbert, 2005; Chandler, 1962) to recommend how scholars can take either a qualitative or multilevel approach toward better understanding the actual strategies managers intend to employ.

In sum, we work toward clarifying the capital allocation puzzle. We believe that summarizing the state of the literature represents a good first step in doing so. Because the literature has

emerged in so many divergent directions, reviewing and categorizing how the literature has fragmented will help future scholars to recognize alternative approaches for their studies. We also provide some suggestions regarding how future scholars can go about recognizing these approaches. We contend that it is imperative scholars examine what capital allocation strategies managers intend to employ as well as what they actually employ instead of imposing preconceived notions to define these strategies. Doing so will allow scholars to examine whether managers' capital allocation goals were successfully achieved.

Defining Capital Allocation and the Scope of This Review

Capital Allocation

Capital allocation is predicated on the notion of a diversified firm (Greve, 2003; Liebeskind, 2000). A diversified firm is involved in more than one business or has multiple business units that act somewhat independently (Haveman, 1993; Williamson, 1975). As Liebeskind (2000) points out, corporate managers have access to capital derived from a variety of activities and must make decisions about what to do with that capital. One of the ways corporate managers use capital is by investing in each of the different business units housed under the corporate parent. Capital allocation therefore refers to a process where corporate-level managers divide finite financial capital among the divisions (we also refer to divisions as business units or business segments) of a diversified firm (Arrfelt et al., 2013, 2015; Bardolet et al., 2011; Liebeskind, 2000).

Early scholarship on capital allocation postulated that the purpose of the multidivisional (M-form) firm was to bring together a collection of business units that would benefit each other as a group when combined under a single parent (Chandler, 1962; Teece, 1981; Williamson, 1975). This work recognizes that because superior information is not available outside the firm and can exist only in M-form firms, a miniature capital market (Williamson, 1975) emerges where each divisional unit competes for and is allocated financial investment in accordance with some logical system (Teece, 1981; Williamson, 1991). In other words, this work on capital allocation assumes that managers can achieve greater firm performance with the conglomeration of business units under a single corporate parent than if each of those business units was its own corporate entity (Bolton & Scharfstein, 1998; Hill, 1985; Teece, 1981; Williamson, 1975). As an example, consider how Disney leverages its key resources in animation across multiple divisions (e.g., toys, books, theme parks, games, hotels, movies, and television). Corporate managers for Disney can better recognize how intellectual property from one division can benefit other divisions than if each of those divisions operated independently with separate management.

As noted previously, we conceptualize capital allocation as the investment of financial capital into the business units of a multidivisional organization generally involving decisions by the top management team (Arrfelt et al., 2015; Bardolet et al., 2011; Bower & Gilbert, 2005; Collis et al., 2007). Because capital allocation is related to the concepts of capital budgeting/investment and resource allocation, these terms are sometimes confused. In his seminal book, Bower (1970: 3) defines capital budgeting/investment as "the way in which large firms use large sums of capital funds to acquire physical facilities." Bower then suggests that resource allocation involves investing capital (physical, intellectual, or human) into activities such as research, advertising, training programs, or employees. In our view, budgeting processes tend to focus on

maintaining ongoing operations of business units, while capital allocation seeks to promote growth or rectify performance problems across and within business units. While resource allocation may involve investing (often) intangible assets into the activities of the firm, our focus is on the allocation of financial resources to accomplish one of the strategies described previously (e.g., Bower, 1970; Harris, Kriebel, & Raviv, 1982; Lepak & Snell, 1999).

Capital Allocation Efficiency

At its core, capital allocation scholarship is focused on the notion of capital allocation efficiency (Arrfelt et al., 2015; Bardolet et al., 2011; Williamson, 1975) or the efficiency of internal capital markets (Liebeskind, 2000; Shin & Stulz, 1998), where *efficiency* refers to decreasing the “input to output ratio or comparison” (Ostroff & Schmitt, 1993: 1345). In other words, capital allocation efficiency reflects the ratio of inputs (financial capital) divided by outputs (performance) (Williamson, 1975, 1991), where performance is generally measured by changes in the firm’s market value or improvements in other firm-level outcomes (e.g., return on assets or return on investment) (Arrfelt et al., 2015). Accordingly, *efficiency* has also become a colloquial term in the capital allocation literature to refer to the performance of the firm or success of capital allocation decisions (Arrfelt et al., 2015; Shin & Stulz, 1998). Because firm performance may represent an outcome too distal to connect to a given capital allocation decision, scholars often focus on the efficiency of capital allocation decisions and conceptualize it in two ways. While some scholars may use the terms interchangeably, there are important nuances in the conceptual differences between *capital allocation efficiency* and *internal capital market efficiency*.

Capital allocation efficiency looks at each business unit discretely, compares each to the others in the firm, and then examines if there is an appropriate proportional relationship between the performance prospects of the business unit and the amount of capital it receives (Antle & Eppen, 1985; Arrfelt et al., 2013; Scharfstein & Stein, 2000). As an example, Arrfelt et al. (2013) consider capital allocation efficiency in the context of overinvestment or underinvestment in the business units. Under this conceptualization, capital allocation is inefficient when “relatively more capital [is allocated] to business units with relatively worse risk-adjusted prospects for future growth . . . while relatively less capital [is allocated] to business units with relative better risk-adjusted growth prospects” (Arrfelt et al., 2013: 1088). Thus, capital allocation is efficient when higher-prospect business units receive more capital than lower-prospect business units.

Internal capital market efficiency, however, is concerned with how internal capital markets look compared to external capital markets. In other words, internal capital market efficiency compares investment in business units to how external investors would have invested in those business units if they were stand-alone firms (Cline, Garner, & Yore, 2014; Shin & Stulz, 1998). Cline et al. (2014: 236) conceptualize internal capital market efficiency by “whether a given segment [i.e., division] within the conglomerate invests more or less than it would as a stand-alone entity.” Liebeskind (2000) summarizes this concept well by calling internal capital market efficiency “relative efficiency,” meaning that it is relative to external capital markets.

There are two assumptions underlying the notion of internal capital market efficiency. First, scholars assume external capital markets are efficient or represent the highest degree of efficiency any capital market could attain (Lang & Stulz, 1994; Shin & Stulz, 1998). This assumption suggests that external capital markets represent a benchmark against which

internal capital markets are compared. Second, the internal capital market efficiency approach assumes that efficiency is represented by comparing the performance of a business unit within a multidivisional firm to its prospective performance as a stand-alone firm (Dittmar & Shivdasani, 2003; McNeil & Moore, 2005). In other words, this approach assumes that the potential performance of the division as a stand-alone firm is an appropriate benchmark against which efficiency is derived; when the performance of a stand-alone is higher than that of a business unit, internal capital markets are viewed as inefficient.

Whether it involves capital allocation efficiency or the efficiency of internal capital allocation markets, the notion of efficiency is connected to firm performance (Arrfelt et al., 2013, 2015; Bolton & Scharfstein, 1998; Williamson, 1975). Some scholars go further and connect efficiency to shareholder value; Shin and Stulz (1998: 531), for example, suggest it is no surprise that “an efficient internal capital market creates value for shareholders.” Because efficiency is so frequently connected with performance and value creation, much of the capital allocation literature does not recognize differences in the two conceptualizations. Not recognizing these differences between the two types of efficiency represents one way the capital allocation literature lacks precision that additional clarification can help resolve. Throughout our review, we highlight the type of efficiency scholars refer to in their studies.

The Scope of This Review

Since this review focuses on internal capital allocation, we primarily included articles explicitly within that literature. However, as we discuss the nuances of capital allocation and the forces that influence managerial decisions, we may cite work that examines adjacent but related areas, including resource allocation or capital budgeting, along with capital allocation. The literature included in this review is the result of an inductive process. We started by searching the following preeminent management journals for articles about capital allocation: *Journal of Management*, *Strategic Management Journal*, *Academy of Management Journal*, *Academy of Management Review*, *Organization Science*, *Administrative Science Quarterly*, and *Management Science*. We then noticed that much of the scholarship on capital allocation builds from the finance and economics literatures. Accordingly, we expanded our search to also include articles from a number of finance journals frequently discussed in our preliminary review: *Journal of Finance*, *Journal of Financial Economics*, *Journal of Financial and Quantitative Analysis*, *Review of Financial Studies*, *Review of Finance*, and *Journal of Corporate Finance*. Finally, we included seminal literature frequently addressed in our initial searches, including books, such as Bower (1970), Chandler (1962), and Bower and Gilbert (2005).

We then qualified and codified each article in order to develop our categorization scheme. As we noticed emerging patterns in the literature, we sought out articles that may help to explain those patterns while still limiting articles to those referenced in literature from our initial search of the journals. Although most articles tended to fall within one of the categories we describe in our review, there is some scholarship on the periphery of these categories that does not appear in this review. This is not because we do not perceive value in such scholarship but, rather, because it is not related to the narrative of this review. For example, some scholars avoid questions about how or why managers make allocation decisions, instead focusing attention on how allocation may affect firm risk (e.g., Dhaene, Tsanakas, Valdez, & Vanduffel, 2012) or on comparing alternative allocation models to that of the

M-form firm (e.g., Bartlett & Ghoshal, 1993). So although we do intend our literature to represent a sizeable portion of the capital allocation literature, especially as it relates to management scholarship, we do not intend our literature review to be comprehensive and inclusive of all literature on capital allocation.

A Review of the Capital Allocation Literature

Capital allocation scholars have employed a variety of approaches when examining the capital allocation process and its corresponding efficiency. In doing so, research has emerged in three general streams. Each of these streams represents an a priori notion about what makes for successful and efficient capital allocation and thus reflects allocation strategies managers could employ. Figure 1 depicts these three allocation strategies and their corresponding literature streams. We suggest that scholars have employed notions to explain efficient capital allocation (and thus improved firm performance) as a function of three different allocation strategies: winner picking (e.g., Arrfelt et al., 2015), diversification (e.g., Ahn & Denis, 2004), and synergies between the business units (e.g., Williamson, 1975).

With the exception of early scholarship that conceptualizes the multidivisional firm, the majority of capital allocation scholarship does not seek to determine whether one of these strategies is more successful than another. Rather, scholars tend to implicitly adopt one of these strategies as the purpose for capital allocation and then determine empirically if allocation has efficiently allocated capital as the strategy would suggest. If managers do indeed have different purposes in mind when allocating capital, it should not be surprising that we lack consistent findings regarding the efficiency of capital allocation. We review each of these strategies below.

Winner Picking

Winner picking occurs when corporate managers evaluate business units individually and allocate capital to them in proportion with their performance prospects (e.g., Arrfelt et al., 2013, 2015; Stein, 2002). Under winner picking, scholars assume managers attempt to get as much return as possible from their investments in business units, such that each business unit receives the appropriate allocation to maximize growth opportunities (Arrfelt et al., 2015; Cremers et al., 2011; Wulf, 2009). As Glaser et al. (2013: 1578) suggest, “through winner-picking methods, internal capital markets add value as a firm makes larger allocations to units with greater investment opportunities.” Thus, a winner-picking approach is almost synonymous with our definition of capital allocation efficiency; like capital allocation efficiency, winner picking is about allocating capital proportionally to the highest-prospect business units.

Scholars believe that corporate managers who are focused on picking business unit winners are most likely concerned with identifying those business units with performance prospects superior to their industry peers (Arrfelt et al., 2013) or superior to other business units within the firm (Arrfelt et al., 2015; Bardolet et al., 2011). One of the most popular methods of doing so uses Tobin’s Q, which is a forward-looking measure of future growth potential. Arrfelt et al. (2015: 1023) describe Tobin’s Q as a measure that is

preferred over stock returns or accounting performance measures, first because it is forward looking as opposed to ex post measures such as ROA, and second, because “no risk adjustment or normalization is required in order to compare values across firms” (Lang & Stulz, 1994).

Tobin's Q reflects the market value of the firm's equity divided by the replacement cost of the firm's assets. Since business units are not independently traded in capital markets, Tobin's Q is calculated from single-industry firms and applied to business units in matching industries (e.g., Lang & Stulz, 1994; Rajan, Servaes, & Zingales, 2000).

Scholars also use other methods to estimate business unit prospects. Some focus on pro forma projections for business unit planning and autoregressive models to predict business unit future performance (e.g., Glaser et al., 2013), others on exogenous shocks or changes to capital allocated to a business unit (e.g., Xuan, 2009), and others on differentials in the imputed values of a firm and its segments versus the actual values of the firm and its segments (e.g., Ang, De Jong, & Van der Poel, 2014). Regardless of method, scholars taking a winner-picking approach focus more on business unit rather than corporate performance (Arrfelt et al., 2013, 2015).

Winner-picking findings and explanations. Arrfelt et al. (2015) suggest that winner picking is a corporate-level strategy that accounts for a nontrivial portion of the variance in firm performance. While many scholars in the capital allocation literature assume that winner picking results in improved performance, Arrfelt et al. (2015) specifically test this assumption along with a series of contingencies and conditions. Ultimately, they suggest that overinvestment and underinvestment in business units harm performance and that the effect is stronger both when the market is fragmented and when the firm is more unrelatedly diversified.

The contention that winner picking is related to better firm performance is troublesome when coupled with the decades of preceding literature that has examined winner picking only to suggest that managers do not do so very successfully. The failure of this research to find consistent results has been attributed to several factors that may hinder success in selecting which units should receive capital and which should not. Financial scholars often point to agency problems resulting from information asymmetry between business unit and corporate managers. In addition, organizational scholars have offered alternative explanations related to organizational routines (e.g., Cyert & March, 1963) and, at a more micro level, decision biases that can result in suboptimal outcomes (e.g., Bardolet et al., 2011). In this section, we turn to what this research employing winner picking as an underlying strategy has found and some of the reasons provided to explain those findings. These findings are summarized in Table 1.

Behavioral biases, referring to cognitive tendencies or limitations (e.g., anchoring, insufficiently differentiating information, playing it safe or hedging, overgeneralizing, backward-looking decision making) that may interfere with managers' abilities to identify the growth potential of business units and allocate capital accordingly, represent one set of explanations for why we fail to find consistent positive links between capital allocation and firm performance (c.f., Ang et al., 2014). These cognitive tendencies create behavioral biases that affect capital allocation efficiency in a number of different ways. First, managers may look to cross-subsidize business units as a means of maintaining diversity or smooth performance across the firm. In fact, Bardolet et al. (2011: 1465) suggest that managers have a "cognitive tendency to naïvely diversify when making investment decisions." They suggest this tendency stems from a subconscious cognitive influence to anchor decisions, potentially leading managers astray by insufficiently adjusting for performance-related differences across business units, hedging risk by allocating evenly across all units, or generalizing the notion that diversification is always positive. Similarly, Cremers et al. (2011) suggest that managers have a behavioral tendency toward even performance, suggesting a

Table 1
Winner-Picking Approaches to Capital Allocation

Illustrative Article	Key Finding(s)	Impediment to Efficiency	Efficiency Type
Antle & Eppen (1985)	Inefficient investment occurs as a result of asymmetric information and moral hazard.	Agency problems	Capital allocation efficiency
Rajan, Servaes, & Zingales (2000)	Divisional managers may provide inaccurate information to corporate managers in order to secure more capital for their divisions. They want to ensure they receive surplus capital, which leads to inefficient allocation.	Agency problems	Capital allocation efficiency
Stein (2002)	Organizational structure matters for picking winners. A decentralized structure is better when information is soft (i.e., unverifiable), and a hierarchical structure is better with hard (i.e., verifiable) information.	Agency problems	Capital allocation efficiency
Dietrich (2007)	Managers tend to efficiently allocate capital when they need to look attractive to outside investors. However, outside investors may influence the firm to allocate capital inefficiently because of contractual constraints on the capital raised.	Agency problems	Capital allocation efficiency
Wulf (2009)	Capital is allocated more efficiently when division managers own larger portions of the firm. This is because their interest shifts from securing more capital for their units to overall efficiency.	Agency problems	Capital allocation efficiency
Xuan (2009)	New CEOs tend to allocate more capital to divisions where they had no prior affiliations in order to "build bridges." This is referred to as "reverse favoritism" and results in inefficient capital allocation.	Sociopolitical influences	Capital allocation efficiency
Bardolet, Fox, & Lovallo (2011)	Managers have a tendency to cross-subsidize business units because they have a cognitive preference for smooth and even diversifications.	Behavioral biases	Capital allocation efficiency
Cremers, Huang, & Sautner (2011)	Capital is allocated both efficiently and inefficiently depending on managers' preferences. Some managers cross-subsidize to help underperforming business units, while others subsidize in accordance with growth prospects.	Behavioral biases and sociopolitical influences	Capital allocation efficiency
Gaspar & Massa (2011)	Business unit managers that share demographic characteristics with corporate managers tend to receive more capital, resulting in inefficient capital allocation.	Sociopolitical influences	Capital allocation efficiency
Arrfelt, Wiseman, & Hult (2013)	Managers employ a backward-looking, aspirations-driven process toward capital allocation. This results in over- or underallocation to business units.	Behavioral biases	Capital allocation efficiency
Duchin & Sosyura (2013)	Divisions receive more capital when their managers have more connections to the CEO in terms of seniority and board membership. This leads to inefficient capital allocation.	Sociopolitical influences	Capital allocation efficiency
Glaser, Lopez-De-Silanes, & Sautner (2013)	Powerful division managers may influence corporate managers to allocate more capital to their business units. This results in inefficient capital allocation.	Sociopolitical influences	Capital allocation efficiency
Ang, De Jong, & Van der Poel (2014)	CEOs may overinvest in divisions with which they are more familiar and may also subsequent divest divisions with which they are less familiar. This results in inefficient allocation.	Behavioral biases	Capital allocation efficiency
Zaks & Tsanakas (2014)	Capital allocation is a problem-solving mechanism for top-level managers. Divisions may receive more or less capital depending on the politics among top managers, resulting in inefficient allocation.	Sociopolitical influences	Capital allocation efficiency
Arrfelt, Wiseman, McNamara, & Hult (2015)	Allocating capital represents a managerial skill. Business units should perform better when managers efficiently allocate capital, although managers tend to allocate inefficiently.	Behavioral biases	Capital allocation efficiency
Hoang & Ruckes (2015)	Capital allocated to divisions motivates division managers. Corporate managers may inefficiently allocate capital to ensure managers are properly motivated rather than to pick winners.	Agency problems	Capital allocation efficiency

keenness to smooth out uneven and volatile business unit performance. Following that logic, they believe managers seek to ensure that performance is insulated from exogenous shocks by cross-subsidizing business units such that each has sufficient capital to withstand sharp performance declines.

Another behavioral bias stems from how managers actually look backward to make forward-looking capital allocation decisions. Arrfelt et al. (2013) suggest an aspiration-driven perspective where corporate managers look to current and past performance when making allocation decisions. Their research builds on the decades-old notion from the behavioral theory of the firm about how managers use backward-looking referents to guide their decision making (e.g., Cyert & March, 1963; Gavetti & Levinthal, 2000). They suggest that managers' decisions are often "anchored by current and past performance and applied with the purpose of correcting performance deficiencies sequentially" (Arrfelt et al., 2013: 1081). Ultimately, this approach conflicts with the forward-looking logic underlying capital allocation and may not represent an appropriate referent for making allocation decisions. Using a similar rationale about anchoring decisions around backward-looking considerations, Ang et al. (2014) suggest managers deal with the difficulties of projecting forward-looking decisions by investing in business units with which they are more familiar or have more experience.

Agency problems within the firm represent another impediment to successful winner picking. Agency problems occur at two different levels in the organization—divisional managers distorting information to corporate managers and corporate managers acting opportunistically at the expense of shareholders. First, divisional managers may provide inaccurate information or may distort information to corporate managers in order to propagate their own interests (Antle & Eppen, 1985; Rajan et al., 2000; Scharfstein & Stein, 2000; Wulf, 2009). This is a problem because of the fundamental notion and underlying assumption that internal managers have superior internal information compared to outsiders that they can subsequently leverage to give the multidivisional firm a performance advantage (Rajan et al., 2000; Stein, 2003; Williamson, 1975). If corporate managers do not receive accurate information about business units, they are therefore unable to leverage that information into a performance advantage.

Antle and Eppen (1985) suggest that agency costs from divisional managers withholding or distorting information stem from the notions of information asymmetry and moral hazard. They suggest that since divisional managers hold more information about their units than do corporate managers, they may provide selective or inaccurate information to corporate managers in order to increase the portion of capital allocated to their units. This perspective likely results in inefficiencies, such as underinvestment and overinvestment (Antle & Eppen, 1985).

Building on that notion of information asymmetry, Stein (2002) delineates "soft" and "hard" information to determine when agency problems are likely to be more or less prevalent and what managers can do to prevent such problems. He suggests that when information is "soft" (not credibly transmitted), corporate managers are better off establishing a decentralized organization in order to ensure capital is allocated efficiently (Berger, Demsetz, & Strahan, 1999; Stein, 2002). Such decentralized structures minimize agency problems by allowing external markets to have more influence on how capital is allocated. Alternatively, when information is "hard" (codified and objective), corporate managers are better off establishing a more hierarchical structure because such structures can more easily govern information transmission (c.f., Stein, 2002; Williamson, 1975).

To prevent agency problems that arise from divisional managers withholding or distorting information, corporate managers may use capital allocation as a means of motivating divisional managers to produce and relay accurate and credible information (Hoang & Ruckes, 2015; Stein, 1997). However, allocating in this way also results in inefficient capital allocation given that capital now is allocated in accordance with agency cost mitigation instead of winner picking (Hoang & Ruckes, 2015). Alternatively, Wulf (2009) suggests the firm can reduce this type of agency problem by granting larger ownership stakes to divisional managers. The contention is that when divisional managers hold ownership stakes, they are less likely to distort information that may help their particular division but harm overall firm performance (and thus reduce the value of their ownership stake). This suggestion builds on the notion that divisional managers may try to influence corporate managers to allocate additional capital to their own business units, interfering with allocation efficiency (Scharfstein, 1998; Scharfstein & Stein, 2000). However, she contends that this, too, can lead to capital allocation inefficiencies; despite the incentives to provide accurate information to corporate managers due to the potential impact on their equity holdings, “headquarters may place too little weight on the information provided by divisional managers and too much weight on publicly available information” (Wulf, 2009: 305).

The second way that agency problems create issues related to capital allocation in multidivisional firms is when corporate managers act opportunistically and employ self-serving rationales to make capital allocation decisions (Rajan et al., 2000; Scharfstein, 1998; Shleifer & Vishny, 1989). Rajan et al. (2000) summarize a process by which corporate managers use capital allocation in ways that increase their own personal wealth at the expense of shareholders. They suggest that corporate managers use monetary incentives to motivate divisional managers to perform better (consistent with Hoang & Ruckes, 2015) but do so with discretionary capital instead of using capital allotted for performance-based incentives. That is, they reward division managers with increased investment rather than performance-based compensation. This allows corporate managers to capture a larger share of performance-based compensation for themselves (Scharfstein & Stein, 2000). The result is a misallocation of capital among businesses since it reflects an allocation based on prior performance rather than future prospects.

Further building on the notion that agency problems with corporate managers spawn inefficient capital allocation, Dietrich (2007) suggests that corporate managers will efficiently allocate capital only when outside investors can monitor allocation decisions. Put differently, corporate managers tend to allocate capital more efficiently and with less opportunism when faced with more vigilant governance. Interestingly, however, in such circumstances, corporate managers may seek to limit investor monitoring in order to deter such governance, which ultimately results in inefficient capital allocation (Dietrich, 2007).

Finally, the social and political landscape of the firm may create *sociopolitical influences* that also prevent managers from picking winners. The general rationale underlying how sociopolitical influences create inefficiencies is that managers instead allocate capital in accordance with political pressures within the organization (e.g., Zaks & Tsanakas, 2014) or social pressures that help them retain or propel their status (e.g., Glaser et al., 2013). Ultimately, scholars in this area contend that if managers are more concerned with using capital allocation as a tool to navigate the political and social elements of the organization, often for their own benefit, they are not appropriately investing capital in proportion to the

business units' performance prospects (Duchin & Sosyura, 2013; Gaspar & Massa, 2011; Glaser et al., 2013).

Corporate managers face a variety of social pressures within their organizations. Glaser et al. (2013) contend that corporate managers wishing to increase or retain their social status tend to allocate more capital to business units whose managers are more powerful. Using a novel survey of managers in multidivisional corporations, they find that more powerful divisional managers are indeed able to more successfully lobby for capital, even when their divisions already have sufficient capital and financial slack. Similarly, Duchin and Sosyura (2013) use hand-collected surveys of managers in S&P 500 firms and find that divisional managers with social connections to the CEO receive more capital. The logic here is that these divisional managers hold social influence over corporate managers because of their connections with the CEO (Graham, Harvey, & Puri, 2015). Interestingly, however, the social influence of divisional managers may not always result in negative firm-related outcomes. Instead, firm performance may improve if divisional managers gain superior information through their private social networks and then share that information with corporate decision makers (Duchin & Sosyura, 2013; Graham et al., 2015). Underlying this view is the logic that strong internal governance will encourage divisional managers to share their private information with senior management rather than use it for their own personal benefit.

In many cases, scholars suggest corporate managers simply engage in favoritism when they allocate more capital to divisions with socially connected managers (Duchin & Sosyura, 2013; Glaser et al., 2013). In fact, Gaspar and Massa (2011) contend that corporate managers even play favorites by allocating more capital to divisions whose managers share similar demographic characteristics. They suggest that when divisional and corporate managers share characteristics, such as being in the same age group, having a similar education, coming from similar careers, and sharing a similar tenure in the organization, corporate managers are indeed more likely to allocate capital to these units instead of to the units with the highest growth prospects. Interestingly, Xuan (2009) finds the opposite effect when the firm has a newly appointed CEO. In these circumstances, Xuan (2009) suggests that CEOs engage in reverse favoritism by allocating capital to business units with which they have no prior affiliations in an attempt to expand their influence through bridge building.

Sometimes corporate managers face conflicting political pressure from powerful groups within the organization. For example, Zaks and Tsanakas (2014: 48) explain how corporate managers may face conflicting pressures from the board of directors and divisional managers because each group has "conflicting objectives, preferences, and beliefs about risk." In order for corporate managers to maintain harmony with both board members and divisional managers, they may allocate more or less capital to divisions based on which group is currently asserting the most pressure (Dhaene et al., 2012; Zaks & Tsanakas, 2014). This could result in underinvestment and overinvestment since capital is allocated not according to business unit prospects but instead according to powerful political interests.

In sum, the notion that corporate managers strive to winner-pick represents a common way scholars think about what drives capital allocation. This allocation strategy and resulting notions suggest that managers successfully allocate capital when they invest proportionately in accordance with business unit performance prospects (Arrfelt et al., 2013, 2015; Wulf, 2009). Despite the fact that winner picking is conceptually linked to successful allocation and subsequently to better firm performance (Arrfelt et al., 2015; Xuan, 2009), scholars have

repeatedly found that managers do a poor job of picking winners (Rajan et al., 2000). In an effort to explain why, and as we have outlined above, scholars have pointed to agency problems (e.g., Wulf, 2009), behavioral biases (e.g., Bardolet et al., 2011), and sociopolitical influences (e.g., Glaser et al., 2013) that may impede winner picking and the allocation of capital to its best uses.

Diversification

Successful capital allocation through beneficial diversification represents another allocation strategy. *Diversification* refers to the building or acquiring of business units that are distinct from the firm's main industry and from any of the existing units, resulting in the collection of a portfolio of business units with uncorrelated income streams (Chatterjee & Wernerfelt, 1991; Hoskisson, Harrison, & Dubofsky, 1991). Diversification often works because it manages the overall risk exposure of the corporation, which also offers several side benefits, including lower capital costs and lower employment risk for senior managers. Capital allocation that seeks to maximize this type of diversification is analogous to the rebalancing of an equity portfolio to maintain a desired level of risk. For M-form firms, this may mean reducing unsystematic risk, leaving only systemic risk (Hoskisson, Hitt, Johnson, & Moesel, 1993; Maksimovic & Phillips, 2002; Matvos & Seru, 2014).

A majority of the research that examines capital allocation through the lens of diversification suggests that diversified firms perform better than undiversified firms for two reasons. First, diversified firms may have less risk exposure compared to undiversified firms (Maksimovic & Phillips, 2002; Matvos & Seru, 2014). The logic is that "firms may be able to reallocate resources internally—for instance, between divisions in different industries—to ameliorate the effect of financial shocks" (Matvos & Seru, 2014: 1143-1144). Since corporate managers can quickly rebalance their allocations across their portfolios of business units, they can maintain a level of diversification that makes their firms less exposed to risk; in the case of an external shock, managers can quickly rebalance their internal portfolio to limit exposure to such an event. Maksimovic and Phillips (2002) also suggest that corporate managers who are familiar with the life cycles of their divisions can reallocate capital to preempt risks associated with industry maturity and size. For example, managers might diversify across divisions in order to mitigate potential performance losses from a division moving through the maturity stage of an industry life cycle.

Second, corporate managers are viewed to have greater ability to decipher information to maximize benefits of diversification than would outside investors (de Motta, 2003; Liebeskind, 2000; McNeil & Moore, 2005). For example, Liebeskind (2000) suggests that diversification can add value for multidivisional firms over stand-alone firms because investment decisions are centralized rather than decentralized across diffuse investors. Based on this logic that centralization yields better information for allocation decisions, scholars argue that diversification allows managers to fund otherwise cash-constrained divisions. For example, Shin and Stulz (1998: 531) contend that "one would expect a segment of a diversified firm to invest regardless of its cash flow if it has valuable investment opportunities."

Supporting the notion of improved internal information in diversified firms, Liebeskind (2000) also notes that agency problems are lower in well-diversified firms. To this point, de Motta (2003: 1193) indicates that "internal capital markets substitute for external capital markets in the provision of managerial incentives," and the internal allocation structure can

do a better job of incentivizing managers than could the external allocation structure of stand-alone firms. In fact, investors recognize the value that properly incentivized corporate managers may bring to their firms, discounting agency problems in firms whose managers appropriately allocate capital (Akhigbe & Whyte, 2015).

Diversification findings and explanations. To empirically examine the value of internal capital allocation from the perspective of diversification—whether from risk reduction or better information—the internal allocation process and the value it can add to the multidivisional firm are often compared with an external allocation process (Bernardo, Luo, & Wang, 2006; Liebeskind, 2000). In other words, given that M-form firms replace the external capital allocation mechanism (i.e., the capital market) of single-business firms with an internal allocation mechanism, the functioning of the internal market is compared to the functioning of the external capital market. Thus, efficiency is implied when there are additional benefits to internal allocation (Shin & Stulz, 1998). However, because directly comparing the internal allocation mechanism of a multidivisional firm with an external mechanism is not possible, most research instead focuses on comparing the value of business units under the corporate umbrella with similar freestanding units. If the sum of the value of a firm's business units is lower under the corporate umbrella compared to what similar units would be worth as freestanding businesses, the difference is referred to as a diversification discount, suggesting inefficient capital allocation. Exceptions to examining benefits of diversification in this way are Ozbas and Scharfstein (2009) and Matvos and Seru (2014), who examine diversification through the lens of overinvestment and underinvestment.

Here, the capital allocation literature suggests that diversified firms are often worth less than single-business firms, exhibiting a diversification discount (Anand & Singh, 1997; Ang et al., 2014; King, Dalton, Daily, & Covin, 2004; McNeil & Moore, 2005). Scholars examining exactly how capital allocation influences the diversification discount have found that capital allocation, not surprisingly, plays an important role in whether or not diversified firms tend to exhibit more or less value than their undiversified counterparts (Dittmar & Shivdasani, 2003; Liebeskind, 2000; McNeil & Moore, 2005). In instances when managers are able to allocate capital efficiently, diversified firms are more valuable and perform stronger than stand-alone firms (Campa & Kedia, 2002; de Motta, 2003; McNeil & Moore, 2005). Alternatively, when managers do not allocate capital efficiently, the diversification discount is evident and M-form firms are less valuable than stand-alone firms. Thus, inefficient capital allocation appears to be a main contributor of the diversification discount (Campa & Kedia, 2002; Liebeskind, 2000; Shin & Stulz, 1998). Scholarship examining capital allocation through the lens of diversification is summarized in Table 2.

While the same impediments to efficient capital allocation may also interfere with allocation strategies geared toward diversification, such as agency problems or behavioral biases, there is strong support for the view that the strategy itself and, in particular, its execution are fundamentally flawed. That is, the diversification discount results from a lack of effort by managers to mirror external capital market preferences (e.g., Cline et al., 2014; Dittmar & Shivdasani, 2003) when it comes to diversification and risk profiles of the firm. When managers deviate from these preferences, they often face a diversification discount.

Bernardo et al. (2006) suggest that agency costs may explain part of the diversification discount. They contend that divisional managers are very adept at lobbying for capital. As a result, firms may allocate capital more in accordance with divisional managers' lobbying

Table 2
Diversification Approaches to Capital Allocation

Illustrative Article	Key Finding(s)	Impediment to Efficiency	Efficiency Type
Shin & Stulz (1998)	Highly diversified firms tend to invest capital inefficiently and in lower-growth projects than less diversified firms. The more diversified a firm is, the more efficiency relies on cash flow transfers between divisions.	—	Internal capital market efficiency
Liebesskind (2000)	Diversification adds firm value when internal capital markets are integrated in the right businesses. Managers often allocate free cash flow inefficiently.	Agency problems	Internal capital market efficiency
Campa & Kedia (2002)	Diversified firms allocate inefficiently when managers do not consciously choose to diversify.	Behavioral biases	Internal capital market efficiency
Maksimovic & Phillips (2002)	Managers will allocate capital to minimize risk from industry shocks, thus increasing diversification. This works only in the absence of agency problems.	Agency problems	Internal capital market efficiency
de Motta (2003)	Divisional managers may free ride. As a firm becomes more diversified, internal capital markets can more easily monitor and prevent this behavior.	Agency problems	Internal capital market efficiency
Dittmar & Shivdasani (2003)	Managers tend to inefficiently allocate capital in hopes of improving diversification. After divisions are divested, firms' values and efficiency increase.	Behavioral biases	Internal capital market efficiency
Ahn & Dennis (2004)	Diversified firms often allocate capital inefficiently. Divisions are often worth more after they are spun off.	Behavioral biases	Internal capital market efficiency
McNeil & Moore (2005)	When managers diversify well and allocate efficiently, spinning off business units decreases firm value. The opposite is true when managers do not diversify well.	—	Capital allocation efficiency
Bernardo, Lou, & Wang (2006)	Compared with single-division firms, multidivisional firms seek too much diversification. They often cross-subsidize business units to diversify, leading to inefficient allocation.	Agency problems	Internal capital market efficiency
Ozbas & Scharfstein (2009)	Managers tend to underinvest in business units that are unrelated to the firm's core business. This problem is more severe when top managers have less ownership.	Agency problems	Capital allocation efficiency
Cline, Garner, & Yore (2014)	Firms that diversify via cross-subsidization will avoid turning to external capital markets for fears of external monitoring.	Agency problems	Internal capital market efficiency
Matvos & Seru (2014)	Managers allocate capital to mitigate the negative effects of exogenous shocks, thereby reducing risk. Doing this offsets problems with over- or underinvesting.	Behavioral biases	Capital allocation efficiency
Akhigbe & White (2015)	Investors face less uncertainty about the firm when managers diversify well and allocate capital efficiently.	—	Internal capital market efficiency

instead of for the purpose of diversification. Further, divisional managers may waste resources vying for capital instead of working to improve performance, leading to lower firm value and a diversification discount. Indeed, Shin and Stulz (1998: 533) suggest that “divisional managers can expend substantial resources in rent-seeking and internal politics, thereby . . . creating deadweight costs.” Further, corporate managers may also allocate capital to low quality divisions simply for the sake of maintaining diversity. Bernardo et al. contend this occurs for managers who do not put in the necessary effort to scrupulously evaluate business units. However, when managers consciously and diligently select a diversification strategy, they are able to reverse those discounts and sometimes achieve a premium firm value (Bernardo et al., 2006; Campa & Kedia, 2002). In fact, Campa and Kedia (2002: 1732) contend “the diversification discount always drops, and sometimes turns into a premium” when managers conscientiously select a diversification strategy for the purposes of value creation.

Following these agency arguments, de Motta (2003) describes a process whereby divisional managers have incentives to free ride when the firm has many divisions. In other words, de Motta envisions divisional managers flying under the radar and shirking their value-maximizing responsibilities as the firm becomes larger. However, he suggests that efficient internal allocation (meaning investments mirroring how external markets would invest) can limit and even reverse such free-riding tendencies. Limiting or reversing these tendencies is due to the notion that divisional managers are often better incentivized in such conditions compared to what they could be in stand-alone firms. Maksimovic and Phillips (2002) characterize a similar scenario, suggesting that diversification results in reduced risk only when corporate managers keep a diligent watch on agency problems arising from divisional managers. However, when corporate managers are unable or unwilling to monitor agency problems, the costs associated with agency are often quite severe, potentially more so than for stand-alone firms. These agency costs are compounded by the fact that unscrupulous managers do not seek necessary external financing because they want to avoid scrutiny from external capital markets (Cline et al., 2014).

In another article describing the agency problems that prevent successful diversification, Ozbas and Scharfstein (2009) find that nearly no firms in their study achieve growth prospects as well as their stand-alone counterparts. After matching business units with stand-alone firms on several characteristics and finding a diversification discount when corporate managers have small ownership stakes in the firm, they conclude that there is a “dark side” to capital allocation. Ultimately, Ozbas and Scharfstein recognize the advantages and disadvantages of allocating capital to maintain levels of diversification but suggest that agency problems often drive capital allocation decisions more than the desire to achieve efficient diversification.

Other scholars suggest that internal capital market efficiency and the subsequent benefits of diversification stem from managers’ choices and abilities. For example, Ahn and Denis (2004: 489) argue “the link between diversification and [firm] value is not causal, but rather is the result of endogenous firm choices.” When managers make conscious decisions to follow a diversification strategy and/or are simply better at doing so, they often improve firm value (Campa & Kedia, 2002; McNeil & Moore, 2005). Using a novel data set, McNeil and Moore (2005) examine the value of business units before and after spin-off to determine whether their value was higher when part of the diversified firm or as stand-alone businesses. They find that managers are able to improve firm value (i.e., the value of the division is greater than as a stand-alone firm) when they allocate capital to business units that either increase levels of diversification or generate relatively more cash flows to the firm.

Although we provide a number of instances above where a properly executed diversification strategy seems to benefit firm performance, we question if firm performance through the diversification discount is the best way to test whether this allocation strategy is successful. We certainly understand the difficulty in doing so, but if we could dig a little deeper and get at the reduction in firm risk resulting from a properly executed diversification strategy, that would be a much less ambiguous and thus much preferred way to measure diversification benefits. Not only does it get at the actual outcome, but it also limits the influence of winner picking and even sociopolitical influence that could otherwise also be reflected in the diversification discount.

In sum, diversification rests at the very heart of the literature on M-form firms and thus capital allocation. Many scholars believe capital allocation is successful when the firm can achieve appropriate levels of diversification (Shin & Stulz, 1998). These levels are often determined by comparing the value of the diversified firm and its business units to the value of stand-alone businesses with similar characteristics (e.g., Ozbas & Scharfstein, 2009). However, many scholars still find that managers do not efficiently allocate capital, and thus firms experience discounts associated with diversification. To determine whether or not a diversification discount exists, scholars frequently point to the forces that influence managers' capital allocation aside from the desire to diversify (e.g., agency and behavioral problems).

Synergies

Synergies between business units represent perhaps the most theoretically grounded, yet least empirically studied, capital allocation strategy. The early notions of the multidivisional firm were built on the idea that business units could synergize in order to create superior performance (Bower, 1970; Bower & Gilbert, 2005; Chandler, 1962; Williamson, 1975). By synergies, we are referring to business units supporting each other with financial, tangible, and intangible resources for the benefit of the firm over any given business unit (Bower, 1970). In other words, synergies often refer to effects of and benefits from business units that may exist solely to help other business units become more successful (Williamson, 1975, 1991; Zajac & Olsen, 1993). From the perspective of capital allocation, a strategy of synergy would suggest that allocation decisions are driven by how the allocation of capital to one business unit enhances the prospects of other business units within the multidivisional organization.

This synergistic perspective is precisely what Chandler (1962) describes in his seminal book about the structure of organizations. In his book, he documents how the structure of an organization follows its strategy. We can extrapolate from this to mean that the capital allocated to a given business unit is dependent on what the organization is trying to achieve, not objective metrics about growth prospects or risk reduction. Chandler illustrates this perspective when he describes how Sears evolved from a catalog-only sales organization into a firm with several physical retail spaces. Accordingly, as Sears continued to grow and add business units (e.g., financial, automotive), its capital allocation strategy shifted to propel and support the new firm strategy regardless of the effect on any given business unit. This may have even involved re-allocating capital from high-growth units (e.g., financial) to lower-growth units (e.g., retail) in order for units to exploit apparent synergies and improve overall firm performance.

In an extensive study documented in his book, Bower (1970) describes a similar capital allocation strategy and process. He observes how a multidivisional firm has several business units occupying various stages in the firm's value chain. While the divisional managers may have incentives and feel the need to maximize the performance of their individual units to

exceed specific performance thresholds, he views it as vital for successful corporations to consider how all of their business units fit together to increase firm performance. Bower therefore envisions corporate managers as having higher regard for how all the business units fit together to propel overall firm performance and less regard for the prospects or performance of any given unit beyond certain minimum thresholds. Building on this logic, Bower and Gilbert (2005) suggest that corporate managers employ specific strategies to ensure that business units synergize, potentially rewarding managers of business units that create synergies but may be considered weaker from a winner-picking perspective.

Since these studies, there has been, with a few exceptions, relatively little focus on synergies in the capital allocation process. While scholars have studied notions from Williamson (1975), most of this work focuses on transaction cost economics, including the decision to internalize business units and the structure of the organization instead of on capital allocation decisions. In a rare departure, Zajac and Olsen (1993: 133) propose a “transactional value” perspective of organizations, suggesting “inter-organizational strategies [that] can result in a transformation that leads to greater expected net benefits for both parties.” Here, *both parties* could refer to business units, suggesting that firms evolve over time to focus more on the synergies of their business units and less on growth prospects and objective performance of individual units. Put differently, corporate managers may over time become more concerned about how their business units fit in with the corporate configuration and less so about whether or not individual units can stand alone under the corporate umbrella (Zajac & Olsen, 1993).

Other scholars have approached synergy in the capital allocation process by examining how capital allocation influences the competitive dynamics of the entire firm. The idea here is that M-form firms often compete in more than a single market (e.g., Yu & Cannella, 2013), and they must consider how their actions shape not only the competitive landscape of a single business unit but also their overall competitive landscape (Chen & Miller, 2012; Karnani & Wernerfelt, 1985). Translating this logic of competitive dynamics to a synergistic approach of capital allocation, firms may carefully select where they compete and may allocate capital as a means of communicating and signaling their intent to their competitors (Chen & Miller, 2012; Sengul & Gimeno, 2013). That is, as firms consider potential counterattacks in more than one market, they may shape their capital allocation strategies to appear more or less competitive in any given market to try to avoid attacks in markets where they may be especially vulnerable (Chen & Miller, 2012; Gimeno & Woo, 1999; Yu & Cannella, 2013).

Firms may also look to competitors to determine where to allocate capital (Boutin, Cestone, Fumagalli, Pica, & Serrano-Velarde, 2013). Managers will observe the financial capacity, liquidity, and capabilities of other firms in their markets and consider such characteristics in their allocation decisions. For example, Boutin et al. (2013) find that when firms in existing markets have strong internal capital markets, competing firms will allocate more capital to business units in the same markets. At the same time, other firms not already in the market are less likely to enter such markets. For markets populated by firms with generally weaker internal capital markets, the opposite may happen—competing firms allocate less but new firms are more likely to enter the market. Ultimately, we illustrate here that allocating capital based on competitive dynamics is a synergistic approach since capital is allocated more on the basis of benefiting the entire organization rather than by metrics from the business units.

In sum, scholarship taking a synergy approach toward capital allocation has been theoretically rich but empirically limited. Part of this may stem from difficulties associated with understanding exactly how business units work together and part from calculating the

often-intangible value some business units bring to the conglomerate. While early work in this area used qualitative approaches to examine what firms are actually doing, much of the succeeding capital allocation literature has instead opted to employ different notions about underlying allocation strategies that lend themselves to more accessible empirical hypotheses testing but may not get at the underlying synergy directly.

Discussion and Recommendations

Thirty-plus years of research on capital allocation has yet to produce a definitive answer to whether the allocation of capital among the businesses of a multidivisional firm is efficient or even agreement on what factors may undermine that efficiency. In this article, we reviewed various approaches to the examination of capital allocation efficiency and explanations for why we fail to observe consistent positive associations with firm performance. Our review of the literature suggests that the failure of the latter is partly due to differences in the underlying notions scholars hold about the purpose or strategy driving capital allocation decisions. We contend that three distinct streams of capital allocation research have emerged differentiated from one another by the different notions and resulting frameworks scholars employ to explain the purpose of capital allocation. That is, each stream of research has begun with a different view of what decision makers seek to accomplish through the allocation of capital, which we conceptualize as distinct allocation strategies. While each view is justifiable on both theoretical and practical grounds, the narrow focus within a stream of allocation research and the failure of scholars to recognize other legitimate purposes and accompanying strategies for capital allocation have led us to this puzzle; we have yet to produce a definitive understanding of the role and effect of capital allocation on firm performance.

To address this puzzle, we proposed a framework that incorporates all three strategies behind capital allocation: (a) allocating capital to the business unit with the best prospects, also known as winner picking; (b) allocating capital to enhance the risk-reducing benefits of diversification; and finally, (c) allocating capital to exploit synergies among business units. Our view is that all three allocation strategies are legitimate in that senior executives are likely to employ one or more of these when determining how to allocate capital. Thus, research that presumes a single allocation strategy across a sample of firms is unlikely to find consistent results when looking at whether capital allocation is efficient or not.

Instead of building a model on what the researcher may believe is as an objective view of what capital allocation should accomplish, we therefore propose that capital allocation research incorporate the intended allocation strategy of corporate managers and the organizational processes and routines driving allocation. That is, we suggest the missing ingredient in capital allocation research is the recognition of firm strategy. This means recognizing that firms allocate for different reasons, resulting in different allocation strategies, and that this may change over time. For example, firms may winner-pick when resources are abundant and some industries promise large returns. Conversely, when faced with increasing risk, firms may use capital allocation to expand diversification as a means to mitigate economic threats. Firms may also wax and wane between strategies of expansion or exploration and between strategies of exploitation that focus on expanding on possible synergies among the various business units. The point here is that multibusiness firms vary in their strategic approaches to managing their various business units and that these different approaches are likely to undermine research that builds on a dogmatic view of what capital allocation should look like and what it should accomplish.

We also suggest that because of the failure to consistently demonstrate the efficiency of capital allocation, scholars have sought multiple explanations for this failure. These explanations include agency problems related to information asymmetry and agent opportunism, decision biases resulting in suboptimal choices, and sociopolitical influences that can also result in allocations that fail to maximize firm value. Behind these attempts to explain the failure of capital allocation is another layer of preconceived notions about what efficient capital allocation means. For the most part, scholars have presumed that efficient allocation corresponds to enhancing firm value or improvements in firm performance. Given that the latter can be measured in a myriad of ways, it should not be surprising that different studies using different measures of performance arrive at different conclusions about efficiency (Vieregger, 2013).

Beyond differences in what is meant by capital allocation efficiency, it is also likely that all three impediments to capital allocation efficiency are simultaneously present and may even have interaction effects on one another. For example, information asymmetry between corporate managers and business unit managers may accentuate the effect of decision heuristics on choice behavior. That is, in the absence of critical information, or in the presence of distorted information, the decision heuristics corporate managers employ in making allocation decisions may create and accentuate biases that result in even less efficient outcomes.

It is also possible that one factor impeding efficient capital allocation may substitute for another factor. For example, sociopolitical forces may take control of the allocation process thus taking it out of the hands of individual decision makers. Instead of corporate managers reviewing available information about business unit prospects in the hopes of enhancing performance, sociopolitical forces may intervene to redirect capital in ways that have little to do with maximizing firm value or enhancing firm performance. These types of decisions could be good or bad depending on the nature of those sociopolitical forces. Taken together, therefore, when examining the effects of various impediments to efficient capital allocation, it is important to recognize that these impediments may both vary in their intensity and interact with one another in ways that further undermine the efficient allocation of capital.

Recommendations

We recognize that our conclusions about the state of capital allocation research call for a broader view of capital allocation than prior research has done to date. This includes investigating what managers are actually trying to achieve rather than imposing a purpose on managerial behavior. Our recommendation is for scholars to first identify the capital allocation strategy managers intend to employ without the prejudice of a single paradigm. Only after identifying the intended capital allocation strategy should scholars determine what potential impediments stand between the allocation strategy and efficient capital allocation. Thus, recognizing the presence of agency problems, decision biases, and sociopolitical forces may still represent only a first step toward fully appreciating the complexity surrounding capital allocation. Combined, this requires scholars to take a more nuanced look at the processes and practice that correspond to capital allocation. They may do so by observing decisions directly or by asking executives to describe their approaches and goals when allocating capital.

We further recognize that this call places more demands on capital allocation research than the approaches typically employed can accommodate. As such, it may be time to take a step back and employ research designed for exploration rather than confirmation in learning about

what organizations are really doing. A first step in doing so may involve a more exploratory approach that develops new theory regarding how managers employ different strategies to allocate capital. The theory would need to recognize different purposes or strategies driving capital allocation and when managers are more likely to employ one versus another. This approach could also include examining different allocation outcomes and how these outcomes may be differentially affected by intervening factors, including the three moderating impediments we describe in this review. For example, we may expect agency conflicts to impede efficient allocation outcomes when managers employ a winner-picking strategy more so than when managers employ a diversification strategy. Scholars can subsequently test these propositions with formal empirical hypotheses testing. Below, we outline two ways scholars may do so.

Qualitative approaches. The first way scholars can learn more about what organizations and their managers are really doing when it comes to capital allocation is to employ more qualitative approaches. This would include observing capital allocation decisions directly or by asking executives to describe their approach, goals, and what impediments they may face when allocating capital. This is an approach that has been used in past research on capital allocation and has been shown to greatly increase our understanding of the process. Bower (1970), for example, used a qualitative approach to map out a number of dimensions—how valuable corporate managers perceived each of their divisions within the firm, how well the divisions fit together, and what influences managerial allocation decisions. Among several examples, Bower (1970: 141-142) details a conversation between managers about how to value a specific division that did not have an extensive sales history and also had a great deal of uncertainty about future projections. The point is that armed with only archival data, he would have had a hard time understanding these dimensions.

Building on this theme, Burgelman (1983) examined several qualitative approaches toward understanding managers' strategy. In his article, he outlines how scholars would have never come to understand the strategic influence of managers without Chandler (1962) and his qualitative studies of Du Pont, General Motors, and Jersey Standard. More closely related to our study, Burgelman describes how the social and political forces in organizations influence how managers formulate strategies and create internal processes. Finally, Bower and Gilbert (2005) describe how capital allocation is often influenced by both top-down and bottom-up forces, none of which scholars can truly understand without a more in-depth, qualitative look into organizations and individual managers.

Examining capital allocation in this way may not necessarily require obtrusive qualitative research methods, such as observing and interviewing managers. Simple surveys may work as well. Graham et al. (2015), for example, describe a study where they surveyed over 1,000 CEOs to understand how they delegate decisions and ultimately allocate capital. Interestingly, these scholars document that "capital is allocated based on 'gut feel' and the personal reputation of the manager running a given division" (Graham et al., 2015: 449), which they found using a survey instrument. Clearly, this type of influence on the allocation process could not have been discovered without an explorative research method.

Multilevel approaches. Although we describe capital allocation as a top-down process wherein corporate-level managers make decisions about how to distribute capital among business units of their firms, the forces that influence capital allocation decisions may also fit a bottom-up perspective. In other words, capital allocation strategies often reflect a series of

decisions from divisions or lower levels of an organization (Bower, 1970; Bower & Gilbert, 2005; Burgelman, 1983; Collis et al., 2007). For example, Bower and Gilbert (2005: 93-94) suggest “a bottom-up process can help organizations overcome the strategic challenges posed by bounded rationality of top executives and dispersed knowledge.” Consequently, we suggest that scholars can better understand the nuances of managers’ capital allocation strategies by employing a multilevel approach that looks simultaneously at all levels of an organization.

Scholars have recently begun to make arguments about how the microfoundations (i.e., lower levels) of organizations may influence top managers’ strategies and decision-making processes (e.g., Devinney, 2013; Felin, Foss, & Ployhart, 2015). This is consistent with the decades-old studies of capital allocation that noticed how individuals within the organization (division manager levels and below) often wield influence over corporate managers’ decisions (e.g., Bower & Doz, 1979; Bower & Gilbert, 2005). In his editorial statement, Devinney (2013) suggests that corporate-level decisions are best understood when scholars examine the microfoundations of an organization. Accordingly, he suggests that scholars study the individuals within the organization, how they aggregate within their divisions, and how those divisions influence corporate-level managers. Recently, Felin et al. (2015: 587) argued that studying the individuals who compose the divisions within the organization can “yield better (or richer) explanations” of macrolevel phenomena, such as capital allocation.

Following these suggestions, we contend that capital allocation scholars may elect to employ multilevel modeling in order to better understand what drives corporate managers’ capital allocation strategies. Recent capital allocation work suggests that divisions with stronger cultures, more experienced employees, or more connected managers receive more capital on the bases of these attributes (e.g., Glaser et al., 2013; Graham et al., 2015). Some of these nuances can be flushed out with additional theoretical work, but we expect multilevel studies will help to better uncover more of the nuances of how organizational dynamics and other factors may influence how, where, and why managers choose to allocate capital.

Conclusion

In our review, we sought to illuminate and clarify answers to two important questions related to capital allocation: (a) What are managers trying to accomplish with their capital allocation decisions? and (b) What is the ultimate connection between capital allocation and firm performance? Through our review, we highlighted how scholars employ often incompatible *a priori* notions and resulting frameworks to explain what managers seek to accomplish. We suggest this leads to inconclusive links between capital allocation and firm performance because scholars have approached the question from very different starting points. We then described the literature comprising three different allocation strategies based on those underlying notions scholars have employed about what corporate managers are trying to achieve. We also outlined some of the explanations scholars offer as to why the link between capital allocation and firm performance remains such a puzzle.

Ultimately, we suggest that scholars need to go into the black box rather than test models built on assumptions about what is occurring in that box we call an organization. We contended that scholars can employ qualitative and multilevel approaches to do so. By delving into the organizational black box, scholars can identify what capital allocation strategies managers intend to employ, what forces may influence those decisions, and what factors may

impede those decisions from generating firm performance. Only then will we fully understand and appreciate how firms work or do not work.

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