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# Capturing Value From Investment Opportunities Under Product-Market Competition: When Do Internal Capital Markets Matter?

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*The view that a business unit can better compete against product-market rivals if granted funding from its parent firm's internal capital market (ICM) has lost traction within strategy, despite conflicting evidence. We develop a theory to explain when funding from a parent firm's ICM should enable a business unit to more effectively capture value (i.e., profit) from its investment opportunities under product-market competition. We depart from prior theories by examining how opportunities relate to competition. Specifically, we propose a typology of opportunities along two strategic dimensions. The first dimension is firm-specificity, a concept derived from the resource-based view. It refers to whether an opportunity stems from unique firm resources and capabilities and is therefore exclusive to a business unit rather than shared with (and contestable by) its product-market rivals. The second dimension is uncertainty about the investment path, a concept derived from the literature on investment under uncertainty and real options. When present, it is impossible (and undesirable) to commit upfront to a fully predetermined set of investments in an opportunity. These dimensions imply that different opportunities may have*

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*distinct critical needs in terms of funding—such as secrecy, timeliness, and reliability—that must be satisfied for a business unit to capture value. Ultimately, our theory indicates that receiving funding from a parent firm's ICM increases a business unit's chances of capturing value when those critical needs are present, suggesting that units with ICM funding may prevail in some competitive environments.*

***Keywords:*** *investment opportunities; product-market competition; competitive advantage; resource-based view; uncertainty; internal capital markets; external capital markets*

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The (re)allocation of capital among a firm's projects or units is a routine managerial task. This process, carried out through the internal capital market (ICM), has long been a central research topic in both strategy and finance (Alchian, 1969; Arrfelt, Wiseman, McNamara, & Hult, 2015; Bower, 1970; Chandler, 1977; Khanna & Tice, 2001; Liebeskind, 2000; Morandi Stagni, Santaló, & Giarratana, 2020; Sohl, McCann, & Vroom, 2024; Stein, 1997; Williamson, 1975). Such a sustained scholarly interest is partly justified by the continued importance of internal financing for firms (Brealey, Myers, Allen, & Edmans, 2023: 369–370). For example, aggregate data for U.S. firms reveals that the ratio of gross fixed investments to cash flows has fallen over the past 60 years from an average of 81.6 percent in 1961–80 and 80.7 percent in 1981–2000 to 66.9 percent in 2001–2023, suggesting an increased use of internal funding to finance investments (Federal Reserve Economic Data, 2025).[1]

During the early days of strategy in the 1960s and '70s, portfolio management frameworks such as the Boston Consulting Group's growth-share matrix were founded on the proposition that a business unit could compete more effectively in product markets if it received funding from its parent firm's ICM when its own cash flow fell short of planned investments. Since external capital market (ECM) frictions may often hinder securing outside funding in the form of new equity or debt, tapping into the already available common pool of funds within the parent firm's ICM could allow for more effective financing of the business unit's investments, thereby enhancing its competitive advantages and product-market positions (Haspeslagh, 1982; Henderson, 1970 [2006], 1976 [2006]; Seeger, 1984). However, as ECMs became more developed and corporate refocusing took hold in the 1980s across many Western economies (Bhagat, Shleifer, & Vishny, 1990; Davis, Diekmann, & Tinsley, 1994), these arguments started losing traction. At the time, Barney (1986: 1237) claimed that with efficient and well-informed ECMs "capital will flow to high return potential firms"; while Porter (1987: 51) noted that "[a] sound strategy can easily be funded" and that "[s]imply contributing capital isn't contributing much." Consequently, intra-firm capital (re)allocation has since been downplayed as a source of superior performance (see Sengul, Almeida Costa, & Gimeno, 2019). Current strategy textbooks imply that treating capital as a scarce resource is unwise (Ghemawat, 2017: 12) and suggest that ICMs are mainly useful when ECMs are underdeveloped, as in emerging markets, or unavailable, as during financial crises (Grant, 2016).

Nonetheless, multiunit firms remain widespread, and both internal financing and capital (re)allocation *via* ICMs continue to be economically significant, even in contexts with

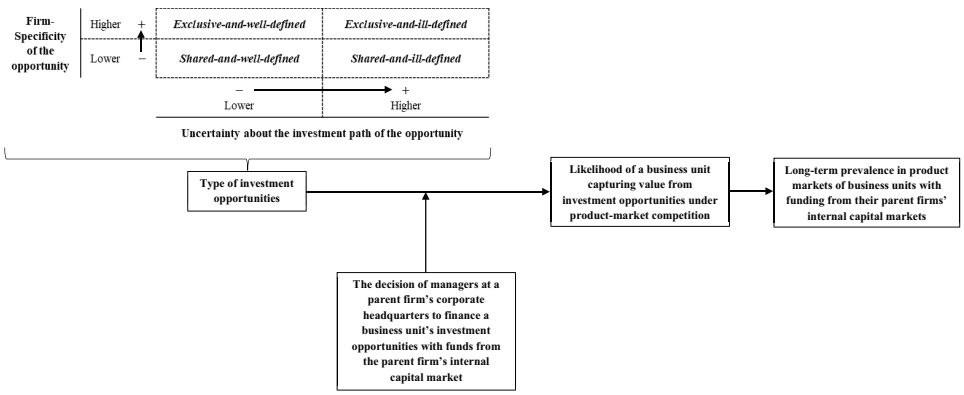
developed ECMs (Boguth, Duchin, & Simutin, 2022; Kuppuswamy & Villalonga, 2016). Furthermore, contemporary empirical studies pertaining to advanced economies indicate that ICM funding can confer a competitive edge on a business unit by enabling it to respond more swiftly to competitive threats from rivals (Khanna & Tice, 2001; Morandi Stagni et al., 2020) or to deter new entrants more effectively (Boutin, Cestone, Fumagalli, Pica, & Serrano-Velarde, 2013). Thus, there is a clear discrepancy between such evidence and the mainstream strategy view that downplays the role of capital and ICMs. This discrepancy calls for a better understanding of the situations for which funding from a parent firm's ICM may allow a business unit to compete more effectively in product markets compared to external funding from the ECM.

Our goal is, therefore, to expand ICM theory by addressing the question: "When is funding from a parent firm's ICM likely to enable a business unit to more effectively capture value (i.e., profit) from its investment opportunities under product-market competition?" To answer this question, we propose a typology of opportunities based on two strategic dimensions that should influence the ability of a business unit to capture value under product-market competition. The first dimension is *firm-specificity*, drawn from the resource-based view (RBV) (Barney, 1991; Peteraf, 1993). It relates to whether an opportunity is exclusive to the business unit or shared with (and contestable by) its product-market rivals (Sengul et al., 2019). The second dimension is *uncertainty about the investment path*, stemming from the literature on investment under uncertainty and real options (Adner & Levinthal, 2004; Ghemawat, 1991). It relates to the impossibility (and undesirability) of committing upfront to a fully predetermined and possibly contingent set of investments in an opportunity (Smit & Trigeorgis, 2017).

The dimensions imply that different opportunities entail distinct critical needs in terms of funding that must be satisfied for a business unit to capture value from them. These needs may go beyond simply obtaining sufficient and affordable funding to also include often-overlooked features such as secrecy, timeliness, and reliability in obtaining capital. Our theory predicts whether funding from a parent firm's ICM should better match these critical needs than funding from the ECM, thereby increasing a business unit's ability to capture value. Ultimately, the theory implies that the advantages of ICM funding are contingent on the type(s) of investment opportunities. Moreover, these advantages should allow business units with funding from their parent firms' ICMs to prevail in some product markets over the long term. Figure 1 depicts the relationships considered by the theory at a high level.

Our theory contributes to research in several ways. First, its typology of investment opportunities under product-market competition identifies critical funding needs beyond merely securing affordable financing. Second, it indicates that product-market competition is central to the value that firms derive from ICMs or any other form of funding. Third, it arguably extends the notion of resource/capital allocation capabilities (Arrfelt et al., 2015; Helfat & Maritan, 2024) by emphasizing the strategic choice between using a parent firm's ICM or the ECM to finance investments. Fourth, the theory suggests that contrarian capital allocation in ICMs may sometimes be advantageous. This challenges the mainstream logic of empirical research on ICMs, which upholds the investments of single-industry firms as a benchmark for capital allocation in multi-unit diversified firms (Boguth et al., 2022; Sengul et al., 2019). Finally, the theory offers a lens by which to (re)interpret previous findings. The discussion section delves deeper into these theoretical contributions while also appraising future research opportunities and managerial implications.

**Figure 1**
**High-Level Depiction of the Relationships Considered by the Theory**




## Investment Opportunities Under Product-Market Competition

Even though managers often allocate capital expecting a business unit (and, implicitly, its parent firm) to capture value from an investment opportunity, such value capture may not fully materialize. One reason could be technological or demand uncertainty that may compromise an opportunity's feasibility and commercial viability. Another could be that existing or potential product-market rivals are also pursuing the opportunity, thereby competing for its finite value. For instance, if demand growth prompts a business unit to invest in added production capacity for profit, simultaneous or preemptive capacity additions by its rivals to capture the same demand growth will reduce the unit's returns from doing so and possibly preclude its investment altogether.

Such an interplay between expectations, uncertainty, rivals' investments, and outcomes complicates the definition of an investment opportunity under product-market competition. In particular, defining an opportunity based on successful outcomes could risk tautology, while relying on specific expectations about rivals' investment behavior could be arbitrary. Consequently, we define an investment opportunity in expected terms as follows:

> An instance in which, if capital were allocated to an investment, a business unit could be expected to increase its value capture (i.e., economic profit) by enhancing its competitive advantages (i.e., superior value creation) or product-market positions, assuming that the investment behavior of its existing or potential product-market rivals remains constant.

This definition aligns with earlier theoretical work on ICMs (Gertner, Scharfstein, & Stein, 1994; Stein, 1997; Williamson, 1975) by treating an opportunity more like a bounded project linked to a specific business, with a circumscribed product-market scope, rather than as a broad and generic growth agenda for a firm. Yet, the definition also departs from prior work since it explicitly ties the opportunity to product-market competition. It does so by emphasizing that value capture stems from enhanced competitive advantages or product-market positions and by pointing to rivals' investment behavior as a central contingency.

Building on this definition, we explore how relevant aspects of product-market competition may affect a business unit's ability to capture value from its opportunities (Sengul et al., 2019; Smit & Trigeorgis, 2017). Namely, drawing on the RBV (Barney, 1991; Peteraf, 1993) and the literature on investment under uncertainty and real options (Adner & Levinthal, 2004; Ghemawat, 1991), we classify opportunities along two strategic dimensions, respectively: firm-specificity and uncertainty about the investment path. The former relates to whether an opportunity is exclusive to a business unit or shared with (and contestable by) its rivals. The latter relates to whether committing upfront to a fully predetermined and possibly contingent set of investments in an opportunity is impossible (and undesirable). We argue that different investment opportunities along these dimensions may entail distinct critical funding needs—beyond simply securing sufficient affordable capital—that must be satisfied for a business unit to capture value from them. Table 1 presents a two-by-two typology of opportunities based on the intersection of the two dimensions and summarizes our arguments, which are developed next.

### *Firm-Specificity*

The RBV asserts that each firm controls or accesses a bundle of nonfinancial resources and capabilities (Barney, 1986, 1991; Collis & Montgomery, 2008; Dierickx & Cool, 1989; Peteraf, 1993; Wernerfelt, 1984). These include tangible assets (e.g., production facilities, equipment, stores), intangible assets and processes (e.g., brands, human capital), and knowledge and information held by the firm, as well as possibly by its partners (Capron & Mitchell, 2012; Dyer & Singh, 1998). Persistent heterogeneity in these resources and capabilities explains why otherwise similar firms create and capture different amounts of value under the same industry and environmental conditions (Barney, 1991; Dierickx & Cool, 1989; Peteraf, 1993).

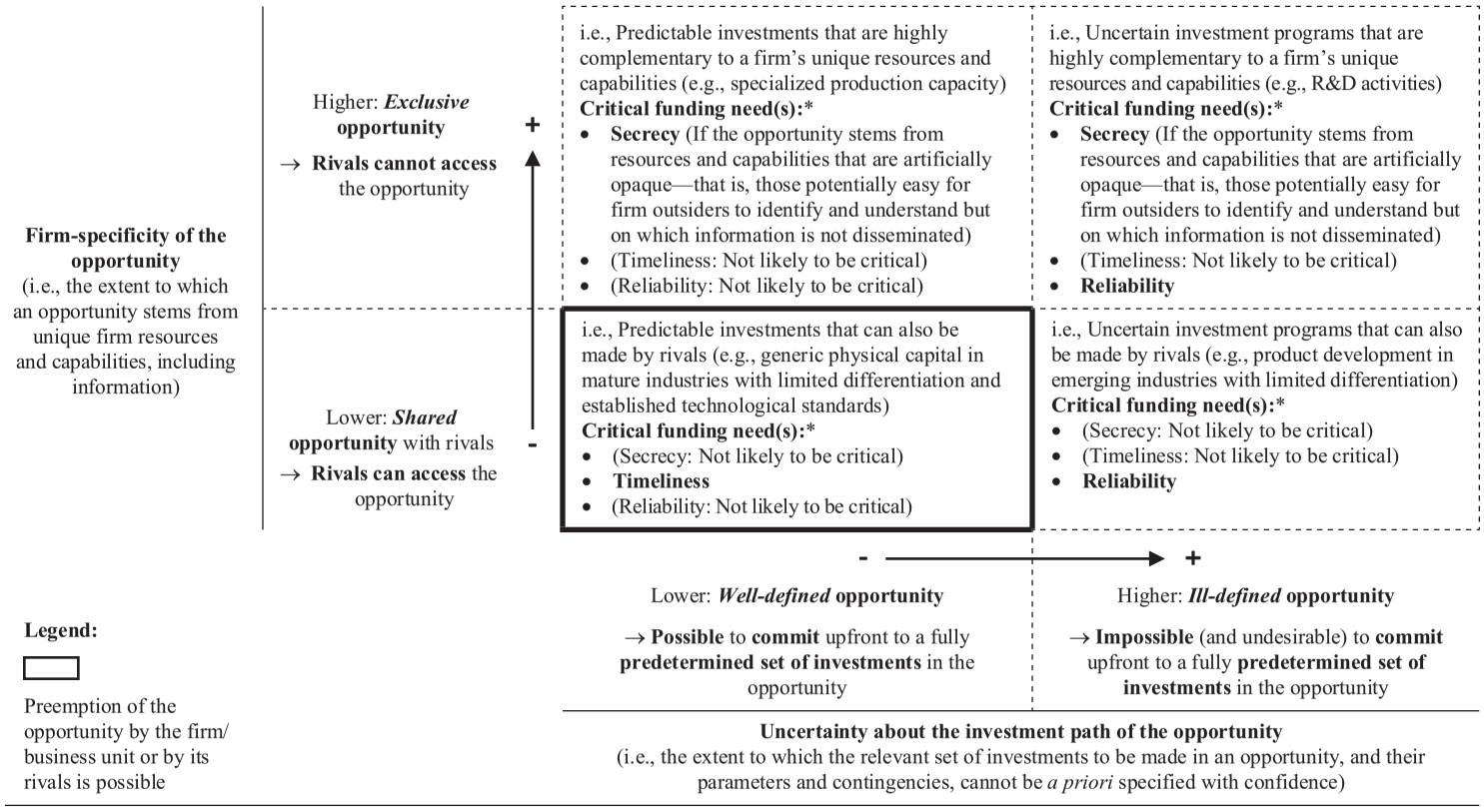
In the context of our theory, the RBV posits that a firm's endowment of valuable and rare resources and capabilities facilitates the development and execution of a distinct value-enhancing strategy, thereby opening up specific investment opportunities for a particular business unit (Barney, 1991: 101, 106; Hitt, Ireland, & Hoskisson, 2016: 90). Sometimes superior information about an opportunity is the valuable and rare resource in question (Barney, 1986, 1991: 104). However, if rivals already possess or can economically acquire equivalent resources and capabilities, they too can pursue an opportunity. Preventing emulation by rivals, therefore, requires that a firm's resources and capabilities be inimitable and nonsubstitutable (Barney, 1991).

The RBV typically considers three primary mechanisms that prevent the imitation of resources and capabilities (Barney, 1991; Hitt et al., 2016: 91–92): (i) the unique (and therefore irreproducible) historical circumstances that led to the acquisition or accumulation of resources and capabilities (Dierickx & Cool, 1989); (ii) the social complexity of factors underpinning some organizational capabilities, such as trustworthiness, which may be comprehensible to outsiders but challenging to replicate (Barney, 1991); and (iii), most significantly for our theory, the causal ambiguity of firm outsiders regarding which resources and capabilities confer a competitive advantage and how (Lippman & Rumelt, 1982).

Vicente-Lorente (2001) pointed out that causal ambiguity arises when a firm's resources and capabilities are *opaque*, meaning that they block outsiders from the relevant information needed to imitate them. He noted that "[t]his related information might range from the

## Table 1

## A Typology of Investment Opportunities Under Product-Market Competition and the Likely Critical Funding Needs to Capture Value From Them




*Beyond the two standard critical funding needs: obtaining (i) enough capital (ii) at an affordable cost.

expected value of exploitation of a given resource to the way of acquiring, accumulating, or deploying a certain resource or capability" (p. 160). According to Vicente-Lorente (2001), opacity can emerge in two ways. First, *natural opacity* reflects the inherent complexity (Nelson & Winter, 1982), tacitness (Polanyi, 1967), or specificity (Polanyi, 1967) of resources and capabilities, making them challenging for outsiders to identify or comprehend, even if information is readily available (Reed & DeFillippi, 1990). Second, *artificial opacity* arises when managers, through secrecy, intentionally withhold information about otherwise transparent resources and capabilities that would be easily identifiable and understandable. Both forms of opacity foster causal ambiguity, helping firms avoid imitation.

Drawing on the RBV, we define the degree of *firm-specificity* as the extent to which an investment opportunity stems from a business unit's and/or its parent firm's unique (i.e., valuable, rare, inimitable, nonsubstitutable) resources and capabilities. A higher firm-specificity makes it difficult for the business unit's rivals to replicate the associated strategy, rendering the opportunity essentially *exclusive* to a business unit. In contrast, an opportunity with lower firm-specificity will be *shared* between the business unit and its rivals.

For an opportunity to be shared, rivals must be aware of it and able to assemble the necessary resources and capabilities economically. If they are able to obtain funding, rivals could then access the opportunity by making their own investments. Such shared opportunities may sometimes resemble classic oligopoly models (Cournot, 1838; von Stackelberg, 1934) in which firms produce homogeneous goods to cater to a common demand. They consistently arise in mature industries with standardized technology and limited differentiation (e.g., electricity generation, commodity chemicals, cement, real estate) and involve tangible investments in industry-specific, but not very firm-specific, physical capital such as property, plant, and equipment. Because these opportunities are typically finite, rivals' investments can crowd out a focal business unit's profitable investment. Hence, a shared opportunity might be short-lived: available to the business unit only until preempted by rivals' investments. Thus, early and significant investments may be crucial for the business unit to capture value and deter rivals, making *timeliness* in obtaining capital a critical funding need, beyond the standard prerequisites of sufficient and affordable capital.

Conversely, an opportunity is exclusive to a business unit if rivals remain unaware of it or are unable to assemble the necessary resources and capabilities economically. For instance, Disney's trademarked characters grant it exclusive opportunities in merchandising, theme parks, television, and movie sequels (Collis & Montgomery, 2008). Because rivals cannot easily access and possibly preempt exclusive opportunities, timeliness in raising capital should not be critical for the business unit to capture value. However, exclusivity may stem from artificially opaque resources and capabilities—those that would be identifiable and comprehensible by outsiders but are deliberately kept secret. If this is the case, maintaining *secrecy* when obtaining capital becomes a critical funding need for such an opportunity, helping preserve its exclusivity and hence the business unit's ability to capture value (Bettis, 1983; Hitt et al., 2016; Liebeskind, 2000; Vicente-Lorente, 2001). In contrast, secrecy should not be critical for shared opportunities, as rivals are already aware of them.

### *Uncertainty About the Investment Path*

Like most strategic decisions, pursuing an opportunity often involves allocating capital and other resources amid uncertainty (Tong & Reuer, 2007; Wernerfelt & Karnani, 1987).

Research on investment under uncertainty and real options indicates that technological or demand uncertainty can prevent managers at both the business-unit and parent-firm levels from *a priori* having clarity about the relevant set of investments to be made in an opportunity, possibly at different times or under different circumstances (Adner & Levinthal, 2004; McGrath, 1997; Smit & Trigeorgis, 2017). We refer to this lack of clarity as *uncertainty about the investment path* of the opportunity or the opportunity's *investment-path uncertainty*.

When investment-path uncertainty is higher, managers at a business unit and its parent firm cannot *a priori* specify with confidence which investments to make in an opportunity, when and under what circumstances to make them, or how much capital they require, due to incomplete information. This compromises the application and accuracy of financial valuation techniques and projections (Christensen, Kaufman, & Shih, 2008). Contrastingly, lower investment-path uncertainty allows managers to specify investments more confidently in advance. We label these polar cases as *ill-defined* and *well-defined* investment opportunities, respectively.

The lower investment-path uncertainty of a well-defined opportunity does not imply that all relevant investments will occur simultaneously. As the term "investment path" suggests, they may occur sequentially. Also, lower uncertainty does not mean that all investments will be made. The implementation of an investment may be contingent on enabling circumstances that are specified *a priori* by managers. In comparison, higher investment-path uncertainty impedes upfront commitment to a predetermined and possibly contingent set of investments in an ill-defined opportunity. Moreover, since such investments are often irreversible—due, for instance, to sunk costs or forgone alternatives—early commitment under higher uncertainty is typically unwise and may result in costly errors (Adner & Levinthal, 2004; Ghemawat & Del Sol, 1998; Pacheco de Almeida, Henderson, & Cool, 2008).

The literature on investment under uncertainty and real options therefore broadly suggests that managers should specify investments in ill-defined opportunities gradually, allowing for flexibility to adapt and update them in response to learning as more information emerges and to potentially abandon the pursuit of the opportunity if deemed appropriate (Bowman & Hurry, 1993; Dixit & Pindyck, 1994; Ghemawat, 1991; Li, James, Madhavan, & Mahoney, 2007; March, 2006; Smit & Trigeorgis, 2017). New information about an ill-defined opportunity may be revealed (i) simply through the passage of time or (ii) through exploration and experiments entailed by a (gradually specified) sequence of investments in the opportunity (Adner & Levinthal, 2004; Li et al., 2007; March, 2006). Early-stage R&D in medical devices or specialty chemicals illustrates the latter search processes, as generally do uncertain investment programs aimed at developing intangible resources and capabilities such as technologies, skills, and routines (Clausen & Hirth, 2016; Porter, 1992; Zingales, 2000).

On the other hand, the appeal of specifying investments gradually while waiting for additional information diminishes in the case of well-defined opportunities. The lower investment-path uncertainty of such opportunities enables managers to specify with confidence the relevant investments to be made *a priori*, with their parameters and contingencies. Committing upfront to a fully predetermined set of investments can then facilitate earlier value capture from well-defined opportunities (Ghemawat, 1991; Gilbert & Lieberman, 1987).

The extent of an opportunity's investment-path uncertainty has considerable implications for its funding requirements. When an opportunity is ill-defined, managers should gradually specify the relevant investments as more information becomes available and the

investment-path uncertainty is resolved. Therefore, *reliability* in obtaining capital during the investment period—in a sufficient amount and at an affordable cost—will be critical to fund the gradually specified sequence of investments in the opportunity and, hence, to capture value from it. Conversely, reliability in funding should not be critical in the case of a well-defined opportunity since managers can specify investments upfront and secure funding in advance, possibly on a contingent basis.

Nonetheless, the resolution of the investment-path uncertainty of an ill-defined opportunity is seldom instantaneous or linear, as new information can be scarce, delayed, or ambiguous (Ahuja & Novelli, 2017; Maritan, 2001; O'Brien & Folta, 2009). Such deferred and unreliable feedback hinders the recurrent availability of objective, quantitative performance signals about ill-defined opportunities that are verifiable by external observers such as information intermediaries (analysts, rating agencies) and investors. Lack of quantitative and verifiable (i.e., "hard") performance signals on a recurrent basis makes it more challenging to assure outside investors about an ill-defined opportunity's ongoing performance (Liberti & Petersen, 2019), thereby complicating efforts to secure reliable external funding. For instance, a firm's progress on the development of a novel technology may be difficult for managers to document quantitatively and for outsiders to verify.

### *A Typology of Investment Opportunities and Their Critical Funding Needs*

Table 1 presents the four types of opportunities that arise from the intersection of firm-specificity and investment-path uncertainty, highlighting the likely critical funding needs for a business unit to capture value from each type, beyond merely securing sufficient affordable capital. In addition, Table 1 offers explanations and examples for each type of opportunity.

If an opportunity is exclusive and well-defined, secrecy is a likely critical funding need for capturing value, but only when exclusivity stems from artificially opaque unique firm resources and capabilities. If an opportunity is exclusive and ill-defined, then reliability of funding is likely to become an additional critical need.

Shared-and-well-defined and shared-and-ill-defined opportunities warrant more elaboration. Since the higher investment-path uncertainty of a shared-and-ill-defined opportunity hinders upfront commitment to a fully predetermined set of investments, it also limits the ability of a business unit's investments to preempt the opportunity from its rivals (and *vice versa*), even with ample available capital (Smit & Trigeorgis, 2017). Timeliness in obtaining capital is then likely to be a critical funding need only for a shared-and-well-defined opportunity, whose lower investment-path uncertainty enables upfront commitment and hence gives rise to preemptive dynamics between the investments of a business unit and those of its rivals. In Table 1, the quadrant associated with shared-and-well-defined opportunities is highlighted to indicate the presence of such preemptive dynamics. The fact that a shared-and-ill-defined opportunity does not lend itself to preemption makes reliability in obtaining capital the likely distinguishing critical funding need in that case, rather than timeliness.

## External *Versus* Internal Capital Markets: Two Distinct Forms of Funding Investment Opportunities

We now outline how funding from a parent firm's ICM for a focal business unit's investment opportunity differs from funding from the ECM to the same end. In doing so, we treat

**Table 2**
**External *Versus* Internal Capital Markets: Relevant Features of Two Distinct Forms of Funding Investment Opportunities**

| | External capital market | Internal capital market |
|---|---|---|
| **Origin(s) of funds and predominant governance mechanisms** | • **Funds from external capital market investors**, obtained to finance a focal business unit's investment opportunity<br>• **Market transactions, contractual** governance mechanisms | • **Common pool of already available funds within the parent firm**, typically generated by the firm's business units (but possibly also funds obtained previously from external capital market investors for purposes other than financing a focal business unit's investment opportunity)<br>• **Allocation by fiat, administrative** governance mechanisms |
| **Key decision-makers and their information** | • **External capital market investors**, generally with **lower depth of firm-specific information**, which is possibly reinforced by widely diversified portfolios and short-term (e.g., quarterly, yearly) evaluation and compensation schemes | • **Managers at the parent firm's corporate headquarters**, with **greater depth of firm-specific information** (detailed and possibly complex, qualitative, or tacit) |

the ICM as a pool of already available funds within the parent firm that can be (re)allocated across its units (Henderson, 1976 [2006]; Liebeskind, 2000; Maksimovic & Phillips, 2013; Porter, 1992; Williamson, 1975). In line with seminal work on ICMs (Alchian, 1969; Gertner et al., 1994; Matsusaka & Nanda, 2002), we implicitly assume that the parent firm's ICM has sufficient funds to cover the investments in the focal business unit's opportunity. However, we also acknowledge that the ICM may be insufficient to fund all the opportunities of every unit in the firm, forcing managers at corporate headquarters to decide which opportunities to fund internally or externally (i.e., through the ICM or the ECM). We will elaborate on this choice in the discussion section. Table 2 synthesizes the arguments that we develop next.

### *Origin(s) of Funds and Predominant Governance Mechanisms*

Securing capital for a focal business unit's investment opportunity from the ECM requires that a parent firm issue equity or raise debt, thereby engaging in market transactions. In essence, these transactions are contractual arrangements whereby ECM investors provide funds to a firm in exchange for claims on the firm's future returns and assets (Bettis & Prahalad, 1983; Myers & Majluf, 1984; Gertner et al., 1994; Teece, 1982; Williamson, 1988). The supply side of ECMs usually involves institutional investors such as banks, mortgage providers, brokerage houses, mutual funds, and insurance firms that borrow capital from other (typically smaller) investors and then provide it to firms (Bushee, 1998; Liebeskind, 2000; Porter, 1992).[2] Obtaining capital from the ECM is commonly a time-consuming process for a firm, as it involves finding relevant counterparts beyond investors (e.g., investment banks), conducting a set of due diligence steps, disclosing pertinent information (e.g., about an opportunity), negotiating terms, and drawing contracts (Dierkens, 1991; Mikkelson & Partch, 1986; Sengupta, 1998; Smith, 1986).

In contrast, a focal business unit's investment opportunity could be financed with the funds that are already available in the parent firm's ICM, which is largely made up of pooled cash generated by the operations of all the firm's business units (plus any surplus funds previously raised through ECM transactions for other purposes) (Henderson, 1976 [2006]; Liebeskind, 2000; Maksimovic & Phillips, 2013; Porter, 1992; Williamson, 1975). The functioning of an ICM then comes down to the administrative mechanisms of capital budgeting used by managers at a parent firm's corporate headquarters to (re)allocate the available funds therein by fiat among alternative uses such as different projects or organizational units (Gertner et al., 1994; Porter, 1992; Stein, 1997; Williamson, 1975). Thus, when ICM funding is granted by corporate headquarters for a business unit's opportunity, the delays associated with ECM financing are avoided (Alchian, 1969; Gertner et al., 1994; Matsusaka & Nanda, 2002). This advantage is especially relevant in the case of a shared-and-well-defined opportunity for which timeliness in funding is likely critical to prevent rivals' investments from preempting the business unit.

### *Key Decision-Makers and Their Information*

There is another clear contrast between the ECM and a parent firm's ICM when it comes to the likely key decision-makers in the financial transactions required to fund a business unit's investment opportunity. If funds from the ECM are used, ECM investors are typically the key decision-makers. If relying on an ICM, managers at the parent firm's corporate headquarters assume this role through the administrative mechanisms of capital budgeting (Bettis & Prahalad, 1983; Chandler, 1977; Gertner et al., 1994; Williamson, 1975). These two types of decision-makers differ significantly in the information that they possess.

As firm insiders, managers at corporate headquarters presumably have deeper, more detailed firm-specific knowledge and can monitor the firm's business units more closely than external investors (Gertner et al., 1994; Liebeskind, 2000; Malkiel, 2003; Porter, 1992; Stein, 2002; Williamson, 1975). In comparison, most ECM investors—often institutional investors managing widely diversified portfolios—rely mainly on publicly available, high-level, and quantitative metrics of performance such as earnings, patent approvals, and analyst forecasts and are evaluated based on their short-term returns (e.g., quarterly, yearly) relative to stock or bond market indices (Bushee, 1998; Porter, 1992). These conditions discourage ECM investors from collecting extensive firm-specific information and may lead them to mimic each other's behavior (Banerjee, 1992; Scharfstein & Stein, 1990).

It may be difficult for managers at a business unit and its parent firm to overcome the relative lack of relevant information of ECM investors about an investment opportunity, since such detailed firm-specific information may be complex, qualitative, or tacit and thus difficult to codify and articulate (Gertner et al., 1994; Liebeskind, 2000; Myers & Majluf, 1984; Williamson, 1975). This should be the case for an exclusive opportunity stemming from naturally opaque unique resources and capabilities (Vicente-Lorente, 2001). Likewise, higher investment-path uncertainty (which characterizes an ill-defined opportunity) often limits the accuracy of financial projections and impedes the recurrent availability of quantitative and verifiable (i.e., "hard") performance signals to be credibly conveyed to ECM investors (Ahuja & Novelli, 2017; Christensen et al., 2008; Liberti & Petersen, 2019; Maritan, 2001). The absence of such "hard" signals will impair the ability of ECM investors to form specific expectations at different stages or instances of an ill-defined opportunity and to stipulate

evaluation criteria and decision rules regarding funding based on those expectations (Benner & Ranganathan, 2017; Gompers & Lerner, 1999; Porter, 1992).

In such cases the potential lack of information of ECM investors should generally compromise the ability of a firm to source capital on favorable terms from the ECM to finance an investment opportunity (e.g., contracting sufficient debt at low interest rates or issuing plenty of equity capital at high implied firm valuations), likely making the parent firm's ICM a more effective funding source (Alchian, 1969; Stein, 1997).[3] The advantage of the ICM would stem from better-informed managers at the parent firm's headquarters flexibly moving internally available funds by fiat among the firm's business units at a low cost and in a timely manner, prioritizing the most promising investments (Alchian, 1969; Servaes, 1996; Shleifer & Vishny, 1991; Stein, 1997; Teece, 1982; Williamson, 1975).[4]

Moreover, bypassing ECM investors reduces the risk of leakage of proprietary information to existing or potential rivals, since it is unlikely that detailed information about the investment opportunity, the business unit, and the parent firm will have to be disclosed to ECM actors such as investors and investment banks (Bettis, 1983; Hitt et al., 2016: 185; Liebeskind, 2000; Myers & Majluf, 1984; Teece, 1982). This should be especially important for an exclusive opportunity that stems from artificially opaque unique firm resources and capabilities, as violations of secrecy (in funding or elsewhere) could compromise the opportunity's exclusivity to the business unit (Cox Pahnke, McDonald, Wang, & Hallen, 2015; Liebeskind, 2000; Vicente-Lorente, 2001; Werth, 1995).

Finally, a firm's ability to source external funding might be influenced by overall trends in the flow and supply of funds in the ECM. Such trends are driven by the publicly available, high-level economic indicators and broad preferences held by ECM investors for particular types of investments and asset classes (e.g., stocks, bonds, commodities, currencies, real estate) across industries and sectors (Benner & Zenger, 2016; Litov, Moreton, & Zenger, 2012; Malkiel, 2003). These ECM trends are also affected by the reports of ECM analysts who, by comparing and evaluating investments through commonly accepted evaluative frames (i.e., categories, narratives, and cognitive schemas) and financial valuation models, tend to reduce coverage and/or issue lackluster forecasts about firms whose strategies are unusual and complex, causing investors to discount those firms' valuations (Benner, 2010; Litov et al., 2012; Zenger, 2013; Zuckerman, 1999; Zuckerman & Rao, 2004). Consequently, the ability of a firm to obtain ECM funding on favorable terms for its business units' investment opportunities should be enhanced when those opportunities are aligned with the broad preferences of ECM investors and commonly accepted standards (Benner & Zenger, 2016; Litov et al., 2012; Porter, 1992).

## Interaction Between Funding From External *Versus* Internal Capital Markets and Investment Opportunities

Having laid out the foundations of the theory, we now turn to our central question: "When is funding from a parent firm's ICM likely to enable a business unit to more effectively capture value from its investment opportunities under product-market competition?" For each of the four opportunity types, we predict whether ICM funding better addresses the likely critical funding needs than sourcing outside funds from the ECM (Propositions 1–4). Based on those predictions, we then also infer how business units financed by their parent firms' ICMs may prevail over the long term in product markets, depending on the predominant type(s) of

opportunities in those markets (Corollary). In essence, our theory posits that a business unit's likelihood of capturing value from a given type of investment opportunity is moderated by whether managers at corporate headquarters decide to finance that opportunity with funds from the parent firm's ICM or from the ECM. Therefore, the theory encapsulates an idea of "fit as moderation" (Venkatraman, 1989) between value capture from investment opportunities and ICM funding (depicted in Figure 1).[5]

### *Exclusive-and-Well-Defined Investment Opportunities (Top-Left Quadrant of Table 1)*

An exclusive-and-well-defined opportunity arises from unique firm resources and capabilities (possibly including proprietary information), making it inaccessible to rivals. Its lower investment-path uncertainty allows managers to specify upfront the relevant set of investments with confidence. As a result, reliability of funding over time should not be a critical need since pursuing the opportunity does not require gradually specified investments. Furthermore, while the lower investment-path uncertainty would allow upfront commitment to a fully predetermined set of investments in the opportunity and thereby facilitate its preemption, timeliness in obtaining funding should not be critical since rivals cannot preempt an opportunity that remains inaccessible to them. Nonetheless, if the resources and capabilities underlying the opportunity are artificially opaque (Vicente-Lorente, 2001), maintaining secrecy when securing funding becomes a likely critical need, beyond simply obtaining sufficient affordable capital.

Tapping the ECM for funds on favorable terms will generally be easier if potential ECM investors (i.e., lenders or shareholders) are well informed about the uses of those funds (Bettis, 1983; Liebeskind, 2000; Merton, 1995). The ability of managers at the business unit and its parent firm to convey information about an exclusive-and-well-defined opportunity to ECM investors from the outset will be compromised if the unique resources and capabilities that underlie the opportunity are opaque (Vicente-Lorente, 2001), even though the relevant set of possibly contingent investments can be confidently specified *a priori*. With natural opacity, informing ECM investors about the opportunity will be challenging because there will be relevant firm-specific information that is complex, qualitative, or tacit, and thus difficult to codify and articulate. With artificial opacity, conveying information about the opportunity to ECM investors would undermine secrecy and increase the risk of sensitive proprietary information being leaked to rivals, endangering the exclusivity of the opportunity and the business unit's ability to capture value from it (Bettis, 1983; Cox Pahnke et al., 2015; Hitt et al., 2016: 185; Liebeskind, 2000). Hence, due to a diverse mechanism for either case of opacity, sourcing enough capital at a sufficiently low cost through financial transactions with ECM investors will be problematic. Moreover, sourcing capital from the ECM on favorable terms will face an added challenge if the exclusive opportunity is tied to a distinct strategy that diverges from the prevailing capital market trends and broad preferences of ECM investors (Litov et al., 2012). Hence, a business unit's likelihood of capturing value from an exclusive-and-well-defined opportunity should be enhanced by managers at corporate headquarters funding that opportunity through the parent firm's ICM when opacity is involved.

Apple's foray into designing custom central processing unit (CPU) chips for its computers offers a compelling illustration (Apple, 2020). This was an exclusive opportunity because it was founded on Apple's deep knowledge of the specific, detailed, and complex technical

specifications of its own computers. Moreover, the fact that Apple's hardware units had previous experience in designing CPUs for smartphones (iPhone) and tablets (iPad) mitigated the investment-path uncertainty of this opportunity, making it well-defined. Importantly, this opportunity was also rife with natural opacity, as it was difficult for outsiders to understand *a priori* how a firm that was not a chipmaker at its core could outdo the long-established Intel in designing computer CPUs. Hence, the financing of this opportunity on adequate terms is likely to have been facilitated by Apple's hardware units resorting to the large cash reserves in the firm's ICM. As a result of its deep knowledge and prior experience in CPU design for the iPhone and the iPad, Apple was then able to design better-suited computer CPUs with system-on-a-chip architectures that improved the speed and energy efficiency of its computers. Furthermore, Apple's innovative chip designs and its recognition of the opportunity might be considered artificially opaque resources: once exposed to them, Apple's competitors in both chip design and computer manufacturing would have identified and comprehended the opportunity. Thus, by abstaining from ECM funding, Apple may have also averted the leakage of sensitive proprietary information that could have compromised its ability to capture value from this opportunity.

If the unique resources and capabilities that underlie an exclusive-and-well-defined opportunity are not opaque, then the previous conjecture will not hold. Given the absence of both natural and artificial opacity and the fact that the relevant set of possibly contingent investments can be *a priori* specified with confidence, managers can convey complete information about the opportunity to ECM investors from the outset without significant frictions and/or the risk of leakage of sensitive proprietary information (Bettis, 1983; Liebeskind, 2000; Myers & Majluf, 1984; Teece, 1982; Vicente-Lorente, 2001). Hence, sourcing enough capital at a sufficiently low cost through financial transactions with ECM investors is not likely to be problematic. As such, a business unit's likelihood of capturing value should not be enhanced by managers at corporate headquarters granting it funding from the parent firm's ICM for the opportunity.

Tesla's investments in its network of charging stations ("Superchargers") exemplify an exclusive-and-well-defined opportunity for Tesla's automotive business unit. The exclusivity of the opportunity stemmed from strong proprietary complementarities: the compatibility with Tesla's portfolio of electric vehicles. Moreover, the relevant set of investments could be specified upfront with confidence, making the opportunity well-defined. The complementarities were presumably easy for outsiders to understand and therefore not naturally opaque resources. Moreover, since the complementarities in question were specific to Tesla, and the opportunity (i.e., the usefulness and necessity of a network of fast charging stations) was widely recognized in the industry, artificial opacity was likely absent as well. Therefore, Tesla management could convey the opportunity to external investors without significant frictions and/or the risk of leakage of sensitive proprietary information. Tesla was then able to raise abundant capital for its automotive business unit in the form of equity and debt, even though it was still not turning a profit (Pitchbook, 2025).

Proposition 1 synthesizes the predictions of the previous arguments:

> ***Proposition 1(a)*****:** *A business unit's likelihood of capturing value from* ***exclusive-and-well-defined*** *investment opportunities based on* ***opaque*** *unique firm resources and capabilities is* ***enhanced*** *by receiving ICM funding for those opportunities.*

***Proposition 1(b):*** *A business unit's likelihood of capturing value from* ***exclusive-and-well-defined*** *investment opportunities based on* ***non-opaque*** *unique firm resources and capabilities is* ***not enhanced*** *by receiving ICM funding for those opportunities.*

### *Shared-and-Well-Defined Investment Opportunities (Bottom-Left Quadrant of Table 1)*

Similarly to an exclusive-and-well-defined opportunity, the lower investment-path uncertainty of a shared-and-well-defined opportunity allows managers at a business unit and its parent firm to *a priori* specify with confidence the relevant set of investments to be made. Hence, a sequence of investments in the opportunity is unlikely to be gradually specified. Therefore, reliability in obtaining sufficient affordable capital over some period to fund those investments should not be a critical need for the business unit to capture value. In contrast with an exclusive-and-well-defined opportunity, however, a shared-and-well-defined opportunity does not stem from unique firm resources and capabilities and thus can be accessed by the business unit's rivals. By construction, this means that the resources and capabilities underlying the opportunity should not be opaque in either the natural or artificial sense (Vicente-Lorente, 2001). Since the underlying resources and capabilities are unlikely to be artificially opaque, secrecy when securing financing capital should not be critical. Moreover, and crucially, combining the opportunity's sharedness with its lower investment-path uncertainty enables both the business unit and its rivals to commit upfront to a fully predetermined and possibly contingent set of investments. The resulting possibility of rival preemption is likely to make timeliness in obtaining funding critical for the business unit to capture value beyond simply securing enough capital at an affordable cost.

Since the resources and capabilities underlying a shared-and-well-defined opportunity should be neither naturally nor artificially opaque, flows of related information to outsiders are unlikely to be impeded (Vicente-Lorente, 2001)—akin to some exclusive-and-well-defined opportunities. Together with the fact that managers can *a priori* specify the relevant set of possibly contingent investments, it follows that complete information about the opportunity can be conveyed to ECM investors from the outset without major frictions or the risk of leakage of sensitive proprietary information (Bettis, 1983; Liebeskind, 2000; Myers & Majluf, 1984; Teece, 1982; Vicente-Lorente, 2001). Furthermore, because the opportunity is shared among multiple rivals, some information about it is likely to be publicly available by default, and ECM investors and analysts may already be aware of and familiar with it. These points suggest that sourcing sufficient capital at an affordable cost through financial transactions with ECM investors should be relatively straightforward.

However, tapping outside investors can conflict with raising capital in a timely manner given potential delays associated with such market-based, contractual transactions (Dierkens, 1991; Sengupta, 1998). We therefore contend that a business unit's likelihood of capturing value from a shared-and-well-defined opportunity is enhanced by managers at corporate headquarters funding that opportunity through the parent firm's ICM, since the ICM's already available pool of funds can be quickly and flexibly channeled by fiat (Alchian, 1969; Gertner et al., 1994; Matsusaka & Nanda, 2002). Moreover, a sizable common pool of funds in the parent firm's ICM may, in and of itself, deter rivals' investments (Boutin et al., 2013).

A telling example is Ørsted, a Danish multinational firm and the world's largest developer of offshore wind power. Many of its subsidiaries' investment opportunities take the

form of offshore wind farms. These opportunities can be construed as shared with Ørsted's rivals (in Europe, SSE Renewables and ENGIE), since they leverage established turbine technology sold by third parties while being driven by overall electricity demand and subsidies for renewable energy generation. Moreover, these are projects for which the relevant investments can be specified in advance with confidence and can thus be viewed as well-defined opportunities. In this context, Ørsted (i) aggregates the proceeds generated by its more than 200 subsidiaries and (ii) consolidates ECM borrowing at the parent level to form a "fully integrated cash pool" in its ICM that ensures flexible, sufficient, and cost-efficient financing for those subsidiaries' businesses (Ørsted, 2020: 126, 2021: 34). We conjecture that the timeliness of the funding provided by Ørsted's ICM aided its subsidiaries in offshore wind farm development to preempt their rivals, contributing to Ørsted's worldwide leadership.

The prior arguments are reflected in Proposition 2:

> ***Proposition 2*****:** *A business unit's likelihood of capturing value from* ***shared-and-well-defined*** *investment opportunities is* ***enhanced*** *by receiving ICM funding for those opportunities.*

### *Exclusive-and-Ill-Defined Investment Opportunities (Top-Right Quadrant of Table 1)*

Akin to an exclusive-and-well-defined opportunity, an exclusive-and-ill-defined opportunity stems from unique firm resources and capabilities and thus remains inaccessible to rivals. Consequently, if those resources and capabilities are artificially opaque (Vicente-Lorente, 2001), secrecy when securing capital becomes a likely critical need beyond obtaining sufficient capital affordably. In addition, the higher investment-path uncertainty of the opportunity means that managers at the business unit and its parent firm cannot confidently specify all the necessary investments in advance. As a result, reliability in obtaining sufficient affordable capital over time to finance a gradually specified sequence of investments should also be a critical funding need. Finally, timeliness in obtaining funding should not be critical since (i) rivals cannot access the opportunity and (ii) managers cannot commit upfront to a fully predetermined set of investments to preempt the opportunity.

Because managers cannot convey complete information about an exclusive-and-ill-defined opportunity to ECM investors from the outset (Liebeskind, 2000; Myers & Majluf, 1984; Teece, 1982; Williamson, 1988), they must engage in several negotiations with ECM investors over time to secure external funding for the gradually specified sequence of investments in the opportunity. However, the higher investment-path uncertainty also implies that in most of those negotiations ECM investors will still lack substantial information about the opportunity relative to firm insiders. This is because the feedback coming from previous investments made in the opportunity or from the passage of time should often be scarce, with latency, and ambiguous (Ahuja & Novelli, 2017; Maritan, 2001; O'Brien & Folta, 2009), making it challenging for ECM investors and analysts to verify whether the opportunity is bearing fruit at any point in time. Such deferred, unreliable feedback also clashes with the typical short-term evaluation and compensation schemes of institutional investors (Bushee, 1998; Porter, 1992). Moreover, if the unique resources and capabilities underlying the opportunity are opaque in either the natural or artificial sense (Vicente-Lorente, 2001), managers face further hurdles in informing ECM investors, as in the case of exclusive-and-well-defined

opportunities. Finally, the opportunity's exclusivity and the possible distinctiveness of its associated strategy may not align with prevailing capital market trends and thus with the broad preferences of ECM investors (Litov et al., 2012).

These arguments suggest that persistent information gaps between ECM investors and firm insiders will compromise the reliability of sourcing sufficient, low-cost outside capital for the gradually specified sequence of investments required by an exclusive-and-ill-defined opportunity. A business unit's likelihood of capturing value should, therefore, be enhanced by managers at corporate headquarters funding the opportunity through the parent firm's ICM. Through pooling internally available funds and reallocating them by fiat at different times, managers at corporate headquarters should be able to reliably finance the opportunity based on their detailed insider information.

A good illustration is Sharp Corporation's technology development strategy from the 1970s to the 1990s (Collis, 1995). Sharp's uncertain, long-term investment programs to develop largely overlooked technologies (e.g., liquid crystal displays (LCDs), laser diodes) were ill-defined opportunities for which complete information could not be conveyed to firm outsiders. These opportunities were also exclusive to Sharp's relevant units (e.g., TV and Video System Group, LCD Group, Electronic Components Group) because they drew on Sharp's unique technological capabilities and know-how, which were likely both naturally and artificially opaque. Natural opacity stemmed from the complex or tacit nature of Sharp's proprietary information, and artificial opacity reflected the potential sensitivity of some of that information which, if leaked, could compromise the exclusivity of the opportunities. Sharp's reported use of its robust ICM presumably allowed it to fund these investment programs reliably. When the markets for products incorporating the developed technologies eventually blossomed (e.g., LCD screens, CD players), Sharp's prior investments enabled its units to secure leadership positions.

However, the difficulties in reliably sourcing capital from ECM investors diminish in specific cases. Namely, whenever *positive* quantitative and verifiable (i.e., "hard") signals (Liberti & Petersen, 2019) about the performance of an exclusive-and-ill-defined opportunity are recurrently available over time, those signals may be credibly conveyed by managers to ECM investors or already exist as public information. For instance, biotechnology companies often synchronize external fundraising rounds and strategic partnerships with the attainment of milestones in clinical trials following the U.S. Food and Drug Administration's protocols because those milestones are regarded as objective and trustworthy indicators by investors. As argued earlier, recurrent "hard" signals allow ECM investors to form expectations at different stages of the gradually specified sequence of investments in the opportunity and to stipulate evaluation criteria and decision rules regarding funding that are contingent on those expectations (Benner & Ranganathan, 2017; Gompers & Lerner, 1999; Porter, 1992). The fact that these "hard" signals are positive will enable them to repeatedly meet or exceed ECM investors' expectations while being aligned with any short-term evaluation and compensation schemes that those investors may have, thereby allowing for additional ECM funding to be reliably available. Moreover, these signals will ease the burden on firm managers to disclose details about the unique resources and capabilities underlying the opportunity to ECM investors. This will minimize any negative effects from the possible opacity (natural or artificial) of those resources and capabilities on the ability of a firm to source external funds to finance the opportunity.

As a result, when recurrent positive "hard" signals about the performance of an exclusive-and-ill-defined opportunity are available, managers at the business unit and its parent firm can reliably source sufficient, low-cost ECM funding for a gradually specified sequence of investments. In such instances, the business unit's likelihood of capturing value from an exclusive-and-ill-defined opportunity should not be enhanced by managers at corporate headquarters granting it ICM funding.

A fitting illustration is BlaBlaCar, a French start-up that pioneered a long-distance ride-sharing platform (Carrick & Zemsky, 2016). Developing the platform and expanding its operations across European countries (France, Italy, Spain, the UK, Poland, Germany, and Russia) constituted exclusive opportunities based on the unique insights and knowledge of BlaBlaCar's co-founders. These opportunities were also ill-defined, as it was impossible for the founders to specify *a priori* the relevant sequence of investments to be made. Nevertheless, from 2009 on, BlaBlaCar reliably secured rounds of sufficient and affordable outside funding for the expansion of its country-level operations because the platform's growing user adoption yielded positive "hard" signals at each stage, meeting the expectations of new and existing investors.

The predictions of the previous arguments are stated in Proposition 3:

***Proposition 3(a)*:** *A business unit's likelihood of capturing value from* ***exclusive-and-ill-defined*** *investment opportunities* ***without recurrently available positive "hard" performance signals*** *is* ***enhanced*** *by receiving ICM funding for those opportunities.*

***Proposition 3(b):*** *A business unit's likelihood of capturing value from* ***exclusive-and-ill-defined*** *investment opportunities* ***with recurrently available positive "hard" performance signals*** *is* ***not enhanced*** *by receiving ICM funding for those opportunities.*

### *Shared-and-Ill-Defined Investment Opportunities (Bottom-Right Quadrant of Table 1)*

As in the case of an exclusive-and-ill-defined opportunity, a shared-and-ill-defined opportunity has a higher investment-path uncertainty, making reliable access to sufficient, affordable capital over time a likely critical need to finance a sequence of gradually specified investments and thereby capture value. However, since shared-and-ill-defined opportunities do not arise from unique firm resources and capabilities, rivals can also pursue them. This implies that those resources and capabilities should be neither naturally nor artificially opaque (Vicente-Lorente, 2001), with the lack of artificial opacity specifically meaning that secrecy in raising capital should not be critical. Moreover, even though rivals can access the opportunity, its higher investment-path uncertainty precludes upfront commitment to a fully predetermined and contingent set of investments, weakening preemption dynamics and thus making timeliness in securing funds unlikely to be critical.

Also akin to an exclusive-and-ill-defined opportunity, managers at the business unit and its parent firm cannot convey complete information about a shared-and-ill-defined opportunity to potential ECM investors from the outset, since the relevant set of investments cannot be prespecified with confidence. Thus, to externally fund the gradually specified sequence of investments in the opportunity, managers must also engage in several negotiations with ECM investors over time.

Yet, the information gap facing ECM investors relative to insiders should be less severe than with an exclusive-and-ill-defined opportunity. Because the resources and capabilities underlying shared-and-ill-defined opportunities should be neither naturally nor artificially opaque, information flows to outsiders are unlikely to be impeded (Vicente-Lorente, 2001). Thus, managers should be able to convey their information to ECM investors without major frictions and/or the risk of leaking sensitive information (Bettis, 1983; Liebeskind, 2000; Myers & Majluf, 1984; Teece, 1982; Vicente-Lorente, 2001). Additionally, multiple rivals pursuing the opportunity means that more information about it should be publicly available by default, aiding ECM investors and analysts in becoming aware of and familiar with it.

Furthermore, assessing limited, delayed, or ambiguous feedback from a business unit's sequence of investments in a shared-and-ill-defined opportunity should also be easier for ECM investors and analysts if they can benchmark across rivals pursuing the same opportunity. In addition, the presence of multiple rivals pursuing similar strategies increases analyst coverage and fosters commonly accepted evaluative frames and valuation models (Benner, 2010; Zuckerman, 1999; Zuckerman & Rao, 2004). It is, therefore, more likely that a shared-and-ill-defined opportunity will be aligned with broader capital market trends and ECM preferences (Litov et al., 2012) and that firms pursuing that opportunity will consequently be able to reliably secure outside funding.

These arguments indicate that ECM investors should not be severely disadvantaged relative to firm insiders in terms of becoming informed about a shared-and-ill-defined opportunity at any point in time, despite the higher investment-path uncertainty. Thus, it should not be problematic to reliably source sufficient funds at a reasonable cost from ECM investors to finance the gradually specified sequence of relevant investments. As a result, a business unit's likelihood of capturing value from a shared-and-ill-defined opportunity is unlikely to be improved by managers at corporate headquarters granting it funding from the parent firm's ICM.

This reasoning for shared-and-ill-defined opportunities holds regardless of whether positive "hard" signals about the opportunity's performance are recurrently available, either to be credibly conveyed by managers to ECM investors or as information that is already publicly available. While such "hard" signals should further enhance the reliability of funding from ECM investors for shared-and-ill-defined opportunities, they are not a crucial enabler, unlike with exclusive-and-ill-defined opportunities. This is because the lack of information of ECM investors relative to firm insiders is less significant in this case.

The effectiveness of the ECM in financing shared-and-ill-defined opportunities is apparent in uncertain periods of industry-wide transitions and innovation when multiple rivals pursue a set of not very distinct strategies, making gradually specified investments in order to enhance the value created by their offerings to a largely common customer base. Recent examples include industries such as video streaming (with rivals Netflix, Disney+, Amazon Prime, etc.) and artificial intelligence (OpenAI, Google, Anthropic, etc.). Since the opportunities in question were shared among (and pursued by) multiple rivals, ECM investors could be relatively well-informed about them at any point in time, despite the investment-path uncertainty. Moreover, the relevant industries were generally deemed attractive by ECM investors. Therefore, single-business firms in such industries pursuing these opportunities could secure abundant, affordable equity and debt funding from the ECM (Pitchbook, 2025), successfully competing against business units financed by their parent firms' ICMs.

Proposition 4 synthesizes the prediction of the preceding arguments:

***Proposition 4*****:** *A business unit's likelihood of capturing value from* ***shared-and-ill-defined*** *investment opportunities is* ***not enhanced*** *by receiving ICM funding for those opportunities.*

Figure 2 depicts Propositions 1–4 and their key mechanisms schematically.

### *Corollary: Long-Term Prevalence in Product Markets*

Propositions 1–4 can be leveraged to forecast the long-term prevalence in product markets of business units with funding from their parent firms' ICMs for their opportunities. To do so, we assume an evolutionary process in which organizational forms with performance advantages increase their presence in the population over time by surviving longer or attracting more imitation (Nelson & Winter, 1982; Williamson, 1985). Overall, Propositions 1–4 suggest that a business unit's performance in a product market should be improved by managers at corporate headquarters providing it with ICM funding if doing so enhances the business unit's likelihood of capturing value from opportunities in that product market, compared to using ECM funding. Consequently, product markets for which ICM funding matches well the critical funding needs of the predominant type(s) of opportunities should, in the long term, have a higher prevalence of business units with funding from their parent firms' ICMs than the average of other product markets in the economy.

The previous arguments lead to the following Corollary:

***Corollary*****:** *In the long term, business units that receive ICM funding for their investment opportunities will have an* ***above-average prevalence*** *in product markets that are predominantly characterized by*:

(i) ***Exclusive-and-well-defined*** *opportunities based on* ***opaque*** *unique firm resources and capabilities*,

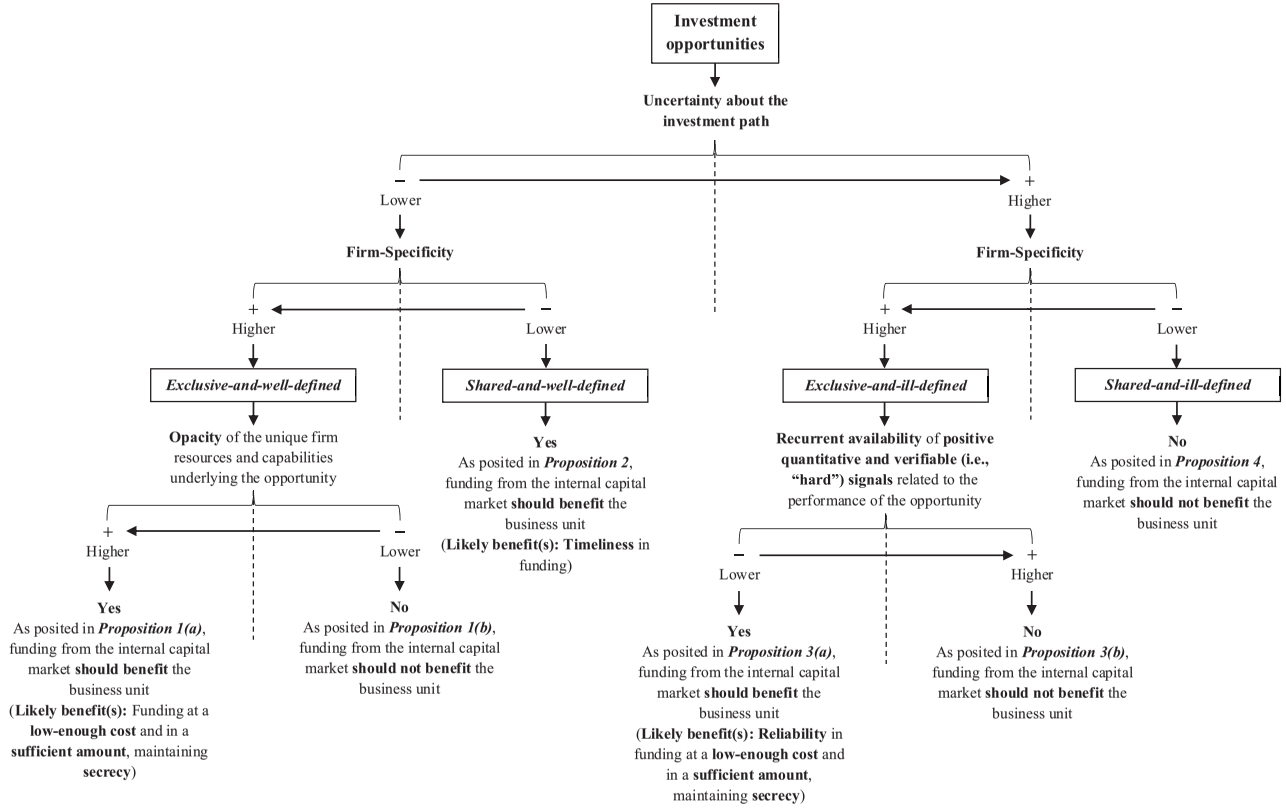
(ii) ***Shared-and-well-defined*** *opportunities, and/or*

(iii) ***Exclusive-and-ill-defined*** *opportunities* ***without recurrently available positive "hard" performance signals***.

## Discussion

We have developed a theory to clarify the situations for which funding from a parent firm's ICM should enable a business unit to more effectively capture value from its investment opportunities under product-market competition. We propose a typology of opportunities based on two strategic dimensions: firm-specificity and uncertainty about the investment path. The first dimension, drawn from the RBV, relates to whether an opportunity is exclusive to a business unit or shared with (and contestable by) its rivals. The second dimension, stemming from the literature on investment under uncertainty and real options, relates to whether it is impossible (and undesirable) to commit upfront to a fully predetermined and possibly contingent set of investments in an opportunity. An opportunity of a given type can entail distinct critical funding needs that must be satisfied if a business unit is to capture value from it. These needs may include features that have been largely overlooked, such as secrecy, timeliness, and reliability in obtaining capital, thereby going beyond merely

## Figure 2
## Is a Business Unit's Likelihood of Capturing Value From Its Investment Opportunities Under Product-Market Competition Enhanced by Receiving Funding From Its Parent Firm's Internal Capital Market for Those Opportunities?



securing enough affordable capital. The theory then predicts whether funding from a parent firm's ICM increases a business unit's likelihood of capturing value from a given opportunity type compared to ECM funding by better matching those critical needs. Ultimately, the theory suggests that ICM funding can be decisive for opportunities requiring secrecy, timeliness, or reliability in funding, thereby making the impact of ICM funding contingent on opportunity type. These insights have implications for the long-term prevalence of ICM-funded business units in some product markets because better alignment with critical funding needs should be reflected in stronger performance and survival over time.

We now discuss the theory's domains of contribution, outline avenues for future research, and finish with a few implications for managerial practice.

## *Domains of Theoretical Contribution*

*The typology and its critical funding needs.* The theory contributes to scholarly debates on intra-firm capital (re)allocation and ICMs by revealing that investment opportunities can be meaningfully classified according to a typology, with each type potentially entailing distinct critical funding needs for value capture under product-market competition. Along with the standard prerequisites of securing sufficient and affordable funding, these needs may include features such as secrecy, timeliness, and reliability that, with only a few exceptions (Bettis, 1983; Liebeskind, 2000), have been neglected in prior literature. Hence, more qualitative and nuanced features than simply the amount and cost of capital can play a central role in explaining the relative effectiveness of different forms of funding. In effect, the theory highlights situations in which secrecy, timeliness, and reliability in obtaining funding can matter as much as or more than considerations about the amount and cost of capital.

*Product-market competition.* The theory also posits that aspects related to product-market competition are essential for the value that ICM funding may accrue to firms. Seminal theoretical contributions on the relative efficiency of ECMs *versus* ICMs (see Busenbark, Wiseman, Arrfelt, & Woo, 2017, for a review) have mostly emphasized information asymmetries and incentive misalignment between a firm or business unit and potential ECM investors (Alchian, 1969; Gertner et al., 1994; Stein, 1997; Teece, 1982; Williamson, 1975). Our arguments complement these views by positing that the competitive conditions of a business unit's product market critically influence which form of funding best supports value capture. More broadly, the theory implies that funding and value capture in product markets are intertwined in such a way that, when discussing ICMs and other forms of funding, it is ill-advised to consider product-market competition as a separate issue.

*Resource/Capital allocation capabilities.* Even though the theory developed here is more closely aligned with a broad research stream that elaborates on the relative efficiency of ECMs *versus* ICMs (see again Busenbark et al., 2017, for a review), it also informs another stream on the workings of intra-firm capital allocation (Arrfelt et al., 2015; Helfat & Maritan, 2024; Lovallo, Brown, Teece, & Bardolet, 2020; Maritan & Lee, 2017). Specifically, the theory contributes to scholarly conversations about the nature of resource/capital allocation capabilities. It does so by extending such capabilities, which Helfat and Maritan (2024) partition between those dealing with search activities and those dealing with selection activities, to include the appropriate choice of whether to fund investments through the ICM or the

ECM. In the theory, this extension is manifested through managers at corporate headquarters recognizing the investment opportunities for which secrecy, timeliness, and/or reliability in funding should foster value capture given the product-market competitive environment and thus for which ICM financing should generally be prioritized.

*Divergent capital allocation patterns.* The theory also suggests that a firm whose investments deviate from industry-wide trends is not necessarily acting in a suboptimal way. Investing when rivals do not (and/or cannot) may enable a business unit to preempt a shared opportunity (Ghemawat, 1991), while investing consistently over time despite cyclical fluctuations in overall industry profitability and investment levels may allow capturing value from an opportunity by fostering the long-term development of unique resources and capabilities (Benner & Zenger, 2016). These ideas challenge the standard approach of empirical work on ICMs, which compares the capital allocation patterns of multiunit diversified firms across industries with the benchmark of single-industry firms (Boguth et al., 2022; Sengul et al., 2019). Our theory suggests instead that seemingly "unusual" allocation patterns may be rational if they align an opportunity's critical funding needs with the advantages offered by an ICM.

*(Re)Interpreting earlier evidence.* Finally, the theory provides a lens by which to (re)interpret published empirical evidence on ICMs and diversification. The studies cited in the introduction as illustrative of how ICMs may help business units compete (Boutin et al., 2013; Khanna & Tice, 2001; Morandi Stagni et al., 2020), for example, suggest that a business unit's ability to preempt and avoid preemption by its rivals is enhanced by ICM funding. Thus, they are aligned with our predictions that ICM funding can facilitate value capture from shared-and-well-defined opportunities, for which preemption dynamics are most prevalent. Moreover, the theory also sheds light on why diversified firms may be prevalent or outperform in particular product markets, as in Santaló and Becerra's (2008) finding that diversification aids performance in industries with few nondiversified competitors or low combined market share among them. This latter evidence suggests that the link between diversification and firm performance is contingent on industry characteristics that may be proxies for aspects of product-market competition. It is thus aligned with our theory, which highlights ICM funding as a facet of diversification and the type of investment opportunities as an important aspect of product-market competition.

## *Opportunities for Future Research*

*Empirical testing.* Testing empirically the mechanisms and predictions of the theory appears to be a viable avenue for future work because many of the relevant constructs could be operationalized by adapting variables from previous research. For instance, the firm-specificity of opportunities could be gauged by a high dispersion or a low absolute correlation of standard measures of investment prospects across rivals (e.g., ROA, growth, Tobin's Q of single-industry firms) or by the intensities of advertising and skilled labor within and between industries, as these capture the importance of (intangible) firm-specific resources and capabilities for competition (Belo, Gala, Salomão, & Vitorino, 2022; Riley, Michael, & Mahoney, 2017). The investment-path uncertainty of opportunities could be appraised through measures based on firms' R&D intensities (Riley et al., 2017) or through more indi-

rect measures, such as the dispersion of ECM analysts' earnings forecasts (Barron, Stanford, & Yu, 2009) and the stock-return volatility of single-industry firms (O'Brien & Folta, 2009).

The possible natural or artificial opacity of the unique resources and capabilities underlying exclusive opportunities could, for example, be empirically measured at the industry level by using existing surveys in which R&D managers from different industries rate the importance of multiple factors for appropriating returns from innovation (Cohen, Nelson, & Walsh, 2000; Levin, Klevorick, Nelson, & Winter, 1987). The recurrent availability of (positive) quantitative and verifiable (i.e., "hard") signals related to the performance of ill-defined opportunities could be assessed at the industry level as well, through an estimate of the number and weight of legitimate operational metrics being tracked. Known examples include customer churn and average revenue per user (ARPU) in the telecommunications industry, same-store sales in the retail industry, revenue per available seat-kilometer in the airline industry, and revenue per available room (RevPAR) in the hotel industry.

Furthermore, the funding of a business unit through its parent firm's ICM could be inferred from discrepancies between the business unit's capital (plus other) expenditures and its own after-tax cash flows (Billett & Mauer, 2003; Morandi Stagni et al., 2020) while controlling for issues of debt and equity. Likewise, the theory's outcomes of interest could also be empirically appraised. Value capture might be measured for publicly traded firms *via* Wibbens and Siggelkow's (2020) stock-market-based, backward-looking metric of long-term investor value appropriation (LIVA). The prevalence of business units in product markets could be gauged by the number of multiunit firms and their combined market share in different industries (Santaló & Becerra, 2008).

*Boundary conditions.* Beyond empirical testing, the theory has boundary conditions (and thus potential limitations) whose exploration opens new avenues for future research. First, the theory presumes a nature of product-market competition in which investments in a shared opportunity are rivalrous in terms of value capture in that the expected value capture of a given business unit from a shared opportunity diminishes when rivals also invest. While we see investments in shared opportunities being rivalrous in this way as a fairly general assumption in product-market settings with oligopolistic competition (i.e., where each of a few competing firms holds a sizable market share), it is not universal. Sharing an opportunity may sometimes impose a positive externality on the expected value capture of a given firm or business unit rather than a negative one. A prime instance here would be when an opportunity involves the development and establishment of a new technological standard (Katz & Shapiro, 1985). In such situations, previously emphasized advantages of ICM funding like timeliness or secrecy may be less important, calling for investigations into how alternative competitive and cooperative dynamics shape the efficiency of ECMs *versus* ICMs as forms of funding.

Second, the theory assumes that more information about an ill-defined opportunity may be revealed simply through the passage of time or because of a sequence of exploratory investments. Despite the deferred and unreliable way in which such information revelation often occurs, the opportunity should eventually become more well-defined over time. For instance, a shared-and-ill-defined opportunity that takes the form of an early-stage R&D or product development project should become more well-defined as it nears commercialization, with intensified preemption dynamics among rivals (Smit & Trigeorgis, 2017) and an

elevated importance of timely funding. This evolutionary view implies that ICM benefits may shift with an opportunity's lifecycle, suggesting rich possibilities for future inquiries.

Third, additional organizational factors may moderate the basic mechanisms outlined in the theory. One factor would be the degree of relatedness among a diversified parent's business units. Beyond facilitating broader sharing or redeployment of nonfinancial resources and capabilities across organizational units (Helfat & Eisenhardt, 2004; Levinthal & Wu, 2010), greater relatedness should reinforce the informational advantages of managers at the parent firm's corporate headquarters over ECM investors (Stein, 1997; Teece, 1982). Another factor is organizational structure and design parameters such as the division of labor, the attribution of decision rights, and the establishment of information flows and control systems, all of which should influence the relative effectiveness of ICM funding (Galbraith, 1977; Joseph & Gaba, 2020). Williamson (1975) notably argued that a multidivisional structure fosters more efficient ICMs through grouping businesses into units with their own profit responsibilities (i.e., divisions), thereby improving performance measurement and comparability. Relatedly, constraints on intra-firm capital flows, whether self-imposed (Sengul & Gimeno, 2013) or determined by regulations (Feldman, 2021), should also influence the potential benefits of an ICM. Finally, systematic differences in execution quality between ICM- and ECM-funded opportunities may further affect which form of funding should be ultimately favored.

### *Implications for Managerial Practice*

Aside from adding to scholarship, the theory developed here offers valuable insights for managers. First, the extension of resource/capital allocation capabilities mentioned previously should be heeded by managers at corporate headquarters, especially when a parent firm's ICM lacks enough capital to finance every business unit's opportunities. In such circumstances, the types of opportunities and their competitive ramifications should inform not only which opportunities to pursue but also whether to finance them *via* the ICM or the ECM. For instance, the theory advises prioritizing ICM funding for firm-specific, uncertain projects with deferred and unreliable feedback or for shared opportunities with high preemption risks. Second, echoing our discussion on divergent capital allocation patterns, managers should note that being contrarian relative to peers or prevailing ECM trends may sometimes be a sound strategic choice. Lastly, the theory underscores that product-market competition is crucial for understanding the financial synergies that ICMs may accrue to diversified firms, thus urging managers to account for these competitive aspects when making corporate restructuring decisions that could affect those synergies.

## Conclusion

This paper advances our understanding of how ICMs may add value to business units and their parent firms. By arguing that the usefulness of a parent firm's ICM depends on the type(s) of investment opportunities of its business units under product-market competition, we are aligned with Porter's (1987: 46) view that "[s]uccessful corporate strategy must grow out of and reinforce competitive strategy." We believe that a perspective bridging corporate and competitive strategy can be enlightening for strategy research, both within and beyond the topic of intra-firm capital (re)allocation.

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## Notes

1. These numbers are based on our calculations using data from the U.S. Federal Reserve (Federal Reserve Economic Data, 2025). Aggregate cash flows are proxied by the sum of firms' net income after tax plus depreciation. We restrict ourselves to the nonfinancial corporate sector of the U.S. economy.

2. Institutional investors typically have widely diversified portfolios, with relatively small and often-traded stakes in many firms (Bushee, 1998; Porter, 1992). There are other relevant funding sources in ECMs, such as more "dedicated" long-term institutional investors, other large (specialized) investors (e.g., private equity and venture capital firms), and small individual investors (Bushee, 1998; Liebeskind, 2000). However, the described institutional investors are arguably predominant, especially for publicly traded firms. In the recent past, it was estimated that over 90 percent of the shares of publicly traded firms in the United States were held by mutual funds, pension funds, and hedge funds, with the average holding period for stocks in those portfolios being less than ten months (Christensen et al., 2008).

3. Finance research states that when prospective ECM investors have significant and persistent information gaps about a firm's prospects and investment opportunities, it is challenging for the firm to source funds from those investors (Fazzari, Hubbard, & Petersen, 1988; Myers & Majluf, 1984). This might force firms without sufficient internally available capital to forgo valuable opportunities. Nonetheless, such external financing constraints may be reduced if the opportunities entail developing or acquiring resources and capabilities that are easily redeployable outside of a firm—or, using terminology from transaction-cost economics, resources and capabilities with low asset-specificity (Klein, Crawford, & Alchian, 1978; Williamson, 1988). This is because those resources and capabilities have trading/resale possibilities that make them suitable as collateral for debt capital (Kim & Kung, 2017; Williamson, 1988).

4. However, ICMs may not always work well. The finance literature highlights that the most detailed information about the prospects of a unit rests with that unit's managers, whose individual objectives may prioritize unit size, power, career progression, and personal gain over the firm's overall performance and shareholder returns (Gertner et al., 1994; Stein, 2002; Wulf, 2009). This has led finance scholars to emphasize different mechanisms through which the agency of unit managers may distort capital allocation toward "corporate socialism"—that is, the subsidization of the units with the weakest prospects and underfunding of those with the strongest prospects (Rajan, Servaes, & Zingales, 2000; Scharfstein & Stein, 2000; Stein, 2002; Wulf, 2009). The strategy literature has complemented these arguments, suggesting that corporate socialism can also be explained by cognitive behavioral mechanisms, such as a tendency (or bias) of top management to promote egalitarian capital allocations across units (Bardolet, Fox, & Lovallo, 2011).

5. A good historical performance of a business unit or its parent firm in domains related to an investment opportunity should naturally improve the firm's ability to source outside funds by giving ECM investors positive reputational signals (Aghion, Fally, & Scarpetta, 2007; Huyghebaert & Van de Gucht, 2004). In consonance with seminal theoretical work on ICMs (Gertner et al., 1994; Stein, 1997; Williamson, 1975), our arguments purposefully de-emphasize historical performance to focus on the interaction between an opportunity's type and its form of funding.

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