Quasi-internalization, recombination advantages and global value chains: clarifying the role of ownership and control

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Quasi-Internalization, Recombination Advantages and Global Value Chains: Clarifying the Role of Ownership and Control

ABSTRACT: In responding to the Forsgren and Holm (2021) critique of internalization theory, we develop a capability-based model of internalization and quasi-internalization, highlighting the key role of the international recombination of assets. With external control mechanisms becoming more sophisticated, full internalization has become increasingly unnecessary. Rather, the capacity to orchestrate complex networks is an increasingly important source of competitive advantage. We demonstrate that internalization theory does not need to assume that the MNE is all-powerful or that it can dictate the choice of mode with its foreign business partners. We also disagree with the argument that internalization theory presumes perfect rationality. When managers' perceptions deviate from reality, they do indeed make wrong choices (over- and under-internalization) that come with various types of efficiency penalties. We share the Forsgren and Holm view that a learning perspective can provide insights on the evolution of an MNE's asset recombination mode, as it gains experience and knowledge. Furthermore, we show that internalization theory has been extended to incorporate such a learning perspective.

Introduction

In their recent paper, Forsgren and Holm (2021, hereafter "FH") provide a compelling challenge to internalization theory at a broad level, as well as to some specific extensions of the theory published in the JIBS special issue, "Applying and Advancing Internalization Theory: Explaining the Existence of the Multinational Enterprise in the 21st Century". As editors of this JIBS special issue (vol 50, issue 8), we traced in the introductory paper (Narula, Asmussen, Chi, & Kundu, 2019) the evolution of internalization theory and examined the principal streams of the theory, their individual antecedents and their interdependencies. That paper explicitly sought to identify the origins and motivations of these various streams, which, despite their heterogenous starting points, individually maintain a common logic as the basis for what is ultimately a coherent conceptual framework that has successfully matured and converged over the last 50 years in response to evolving real world circumstances.

Responding to developments since the turn of the century, Narula *et al* (2019) argued that much contemporary work, including some of the other papers in the special issue, had been inspired by, and focused on, MNEs' use of hybrid governance modes where the activities of foreign actors are effectively controlled and coordinated without the use of equity-based internalization – a form of economic organization that we referred to as *quasi-internalization*. The introductory paper then discussed the capabilities necessary to undertake internalization or quasi-internalization, making two simple (and perhaps simplistic) points about these capabilities. First, it suggested that these capabilities are endogenous in the long run and are not distributed equally among firms – some may have such capabilities while others do not, and arguably larger MNEs with many subsidiaries, suppliers, and partners are more likely to be so endowed. Second, the capabilities for governing external relationships in a quasi-internalization setup are most likely very different from those for governing the hierarchy within an MNE. Following work by Dunning (1993) and subsequent conceptual efforts to develop a more fine-grained understanding of ownership advantages (e.g. Cantwell, Dunning and Lundan 2010, Verbeke 2009, Narula 2014, 2017), Narula *et al* (2019) utilize a nuanced understanding of firm-specific assets, emphasizing transaction-type ownership advantages (O_T), comprised of *external* governance capabilities O_{TE}

and *internal* governance capabilities O_{TI}. The introductory paper also added flesh to the concept of asset recombination capabilities as an important subset of ownership advantages. MNEs need efficient internal markets and well-structured cross-border hierarchies, and this in turn requires the capacity to recombine ownership advantages within the firm's boundaries, and those residing outside these borders as ownership advantages of other organizations. Successful MNEs must act as "meta-integrators" (Narula, 2017). Such capabilities, which could reside in the routines of the firm, the knowledge and experience of its managers, its technology, or its corporate culture, are firm-specific and not easy to acquire and transfer, but, once developed, provides the basis for the MNE to derive advantage over its competitors. Both types of ownership advantages shape the MNE's ability to mitigate transaction costs in managing its global network of productive activities, and as a consequence, determine the efficiency of the MNE and its capacity to exploit market imperfections. These, in turn, provide a richer basis to understand internalization, its absence, or when quasi-internalization is the optimal mode.

The FH paper – as suggested by their title, "Controlling without Owning—Owning without Controlling" – takes umbrage with internalization theory broadly, and our explications specifically. The FH paper making three main arguments. First, they argue that our introductory paper did not make a clear distinction between internalization and quasi-internalization, and that in their judgement, these were essentially two ways to achieve the same thing—control—since they rely on very similar mechanisms. Second, they claim that we (and others before us) assumed the MNE to be "all powerful" and able to make unilateral decisions about governance within the global value chain (GVC). Third, they suggest that internalization theory generally also makes a related (implicit) assumption that the MNE is "all knowing" in the sense of being able to correctly estimate all transaction costs and being able to select an appropriate governance form based on that knowledge. At a conceptual and philosophical level, the points made by FH are well taken. Indeed, FH are doing IB scholars an important service by highlighting some complex issues surrounding internalization that are not always articulated clearly in extant work or even not (yet) fully understood.

In this paper, we strive for the same spirit of intellectual curiosity and inquiry, articulating our response (and thereby offering greater conceptual texture to internalization theory) by addressing FH's critique. We do so by developing a clear distinction between internalization and quasi-internalization, and by relaxing the dual assumptions of the all-powerful and all-knowing MNE by introducing bargaining dynamics and information asymmetries.

This paper is structured as follows. We first examine each of the three critiques in greater detail, and then elaborate on our earlier arguments (Narula et al., 2019) by developing a conceptual framework that is supported by a formal model (available in the online appendix). Formal modelling obliges us to be more explicit about the mechanisms and thereby provides an opportunity for other scholars to disagree not only on predictions, but also on the underlying assumptions that lead to those predictions—with the hope that this will spur further, continued debate.

The Forsgren – Holm (FH) Critique

Although the FH critique touches on several points, there are three substantive issues which deserve special attention, relating to the novelties associated with global value chains.

Critique 1: Are internalization and quasi-internalization associated with similar mechanisms and governance capabilities for the MNE to maintain control?

The first of these issues that FH raise is concerned with the mechanisms for external and internal governance that underlie the transactional capabilities (O_{TE} and O_{TI}) examined in Narula et al (2019). In our special issue introduction, FH argue, the "basic control mechanisms of both O_{TI} and O_{TE} are strikingly similar", and, "the reasoning behind the extent to which an MNE decides to quasi-internalize seems to be based on the same assumptions of effective control as in the internalization case."

Our understanding of this critique is that FH question the discriminant validity of the two constructs and ask how they can be better distinguished from each other. An implicit part of this critique, arguably, is related to the empirical implications. There has long been a debate in the resource-based literature (e.g., Priem & Butler, 2001) about the risk of tautology when linking resources and capabilities to outcomes. We would agree that it would be simplistic to propose something akin to that "MNEs choose the governance form for which they have the best capabilities", and that such reductionism would not be useful either theoretically or empirically. Clearly, we need instead to dig one level deeper and inquire "why are some MNEs better at one governance form and other MNEs at another form?" This question, in turn, requires us first to clearly distinguish the *mechanisms* of governance in internalization and quasi-internalization and then to identify the antecedents for the development of capabilities for utilizing the relevant mechanisms – a task that we take a preliminary stab at in this paper.

Critique 2: Does internalization theory assume a locus of decision making where the MNE is always the all-powerful orchestrator?

The second issue raised by FH is concerned with the locus of decision-making in the choice of governance forms, in the presence of multiple actors typical of the GVC. FH argue that the extant literature exaggerates the empirical relevance of the MNE as a 'flagship firm' that 'orchestrates' its GVC, noting that "strikingly, the MNE-GVC literature tends to use the same examples, most often Apple or Nike", while they expect that "the picture of a large and dominant MNE in a system of small and highly dependent firms is perhaps the exception rather than the rule". They propose the theory of the "embedded MNE" as a more accurate depiction of reality.

While the distribution of power in GVCs and embeddedness of MNEs are ultimately empirical questions, we take from their critique a theoretical question about the locus of decision making in GVCs and the implications of this for the prediction of internalization theory. In other words, are decisions made by an MNE, by other firms within the GVC, or by a sort of 'invisible hand of the market'—and does it matter? Arguably, even if one were to uphold an 'MNE-centric' perspective where the MNE decides on a governance form (e.g., choosing to internalize foreign distribution by acquiring a distributor), such a decision would have to be accepted by the other parties involved (e.g. the foreign distributor would have to accept the acquisition price offered by the MNE). When the efficient solution requires a collaborative arrangement with each party possessing outside opportunities, there will be a strategic maneuvering to appropriate the gains from the collaboration. This suggests that it can be useful to take a *bargaining* perspective on the MNE and on transactions in GVCs, as we do in this paper.

Critique 3: Does internalization theory rely on the MNE being super-rational or can it fully embrace bounded rationality and uncertainty?

The third issue raised by FH is that internalization theory is wrong in implying that governance choices are efficient, especially when such choices are solutions to problems that may not be easily understood by the involved firms themselves. They note that "although [bounded rationality] is an

important concept in classical internalization theory, it has basically been used as an important dimension of market imperfections more than as an issue of the MNE's governance mechanisms." Accordingly, they wonder whether fully accounting for bounded rationality will undermine the "crucial assumption that internalization reflects a rational decision to minimize the sum of transaction and management costs".

We admit that it would be somewhat paradoxical for internalization theorists to claim that transaction costs stemming from bounded rationality make it difficult to observe the behavior of one's external partners, while assuming at the same time that the magnitude of these transaction costs can be accurately measured to work out the most efficient solution with confidence. However, the question is what the consequence (for internalization theory) is of allowing for the possibility that wrong (inefficient) governance forms are sometimes chosen – will firms involved in such forms learn from their mistakes or be disciplined by competition? These are classical questions that can be examined with an *evolutionary* lens.

A Capability-Based Model of Internalization and Quasi-Internalization

We now present a stylized model of MNE governance choices and thereafter, based on this model, discuss more generally each of the three issues raised by FH. We expand on one of the novel perspectives developed in Narula et al (2019): Cross-border asset recombination, also referred to as "melding" or "bundling", and the various transactions costs that arise from this imperative (Pitelis & Verbeke, 2007; Hennart, 2009; Verbeke, 2009; Collinson & Narula, 2014). Consistent with Hennart (2009: 1435), we understand recombination as the joint (combined) use of the complementary assets to earn rents.

The expanded framework of internalization theory is eclectic, encompassing various types of transaction costs and market failures. In this expanded view, a resource-based perspective remains central to much of the contemporary thinking about internalization, and features prominently in the critique offered by FH. More importantly in this context, focusing on the prototypical case of asset recombination can help us explicate their critique and thereby also respond to it more precisely.

In a recent paper, Lee, Narula, and Hilleman (2021: 1-2) argue that, to be successful in a turbulent world, MNEs need to combine complementary assets "regardless of location" and across intra- and inter-organizational barriers." This process allows MNEs to generate and renew their rent-generating asset bundles based on, for example, technology, marketing, managerial skills or other more "static" firm-specific advantages (FSAs). The archetype of asset recombination is a dyadic case where there are complementarities between assets owned (at least initially) by two independent firms from different countries, such as an MNE possessing non-location bound technological assets, and a local firm possessing location-bound assets for accessing the target market.

Building on Hennart (2009), this setup is "non-MNE centric" in the sense that we do not assume the MNE to be all-powerful (FH)—the MNE needs the local firm's assets as much as the local firm needs the MNE's assets. Hennart (2009) described how such complementary assets can be bundled in different ways so that their complementarities are exploited—by using either the market for the services of the assets, the market for the assets themselves, or the market for the firm (or part thereof) possessing the assets, depending on the transaction costs in each of those markets. Since either party can in principle access the other's assets via one of these markets, a complete analysis requires an examination of the transaction costs for using each of these six (2 x

3 = 6) markets. But we can derive the key insights by focusing on an even simpler case with two additional assumptions:

1. There exists a potential gain from a recombination of the two firms' assets, but an additional gain can be achieved by including a significant adaptation of each firm's assets. We refer to this as "mutual adaptation" and it can be related to what Lee and colleagues (2021) call "transformation" of the assets as part of the dynamic recombination process.
2. The requisite adaptation of the assets from each firm requires the skills and organizational routines embedded in the firm or part thereof, so that those assets are inalienable from the firm or part thereof (Hart, 2009; Hart & Moore, 1990).

The combination of these two conditions focuses our analysis on a more interesting aspect of asset recombination. Recombination of two assets may entail significant adaptation of only one of the two assets that can be accomplished by the current owner of the asset to undergo such adaptation. But "mutual adaptation" combined with each asset's "alienability" from its current owner requires that both parties make concerted efforts in the recombination process. Assumption 2 also implies that neither firm can profitably purchase the pertinent assets from the other firm unless it acquires the other firm or part thereof. This could be seen as the MNE acquiring the local firm, the local firm acquiring the MNE, or the two firms combining in a "merger of equals", all of which implies internalization. In general, however, acquisition is a costly proposition because it entails greater resource commitment, higher financial risk, less flexibility and stronger local expertise on the part of the MNE (Chi, Li, Trigeorgis, & Tsekrekos, 2019; Shenkar, Luo, & Chi, 2021). So, internalization only becomes economically superior when its alternatives (specifically, market exchange and quasi-internalization in the context of this paper) engender high transaction costs. While there could be a myriad of antecedents for transaction costs, many of these come down to the types of holdup problems that Grossman and Hart (1986) and Hart and Moore (1990) modelled. For example, Hennart (2009: 1439) notes that "effective distribution may require that distributors make significant physical (warehouses and repair facilities), intellectual (understanding the product), and relational investments (understanding customer needs). Independent distributors may refuse to make the optimal amount of investments if they see them as specific to particular manufacturers, for fear of being held up by those manufacturers."

This argument is central to much of internalization theory and can be related to different streams of this literature. First, it is related to what Grøgaard & Verbeke (2012) call "linking investments". The MNE's technology may need to be adapted to the manufacturing and distribution systems of the local firm, and the local firm may need to make changes to its systems to accommodate the MNE's technology. Second, it is clearly pertinent to the owning vs. controlling discussion that is extensively covered by FH. The holdup problem is in many ways a failure of control, driven by contractual incompleteness relating to the linking investments themselves and the division of surplus after those investments are made. For example, if the firms could contractually commit *ex ante* to a certain division of the surplus, they would avoid opportunistic renegotiations *ex post* and thereby ensure that the incentives for making the investments would be aligned. Third, and finally, it is assumed (sometimes tacitly) that what drives the costs of these mutual adaptations is the diversity and distance between the MNE's technological base and the host market because they not only necessitate more substantial adaptations of products and processes but also exacerbate the transactions costs in coordinating such adaptations. Diversity and distance are central IB constructs and constitute one of the dimensions that clearly separates internalization theory from a "domestic" application of

transaction cost reasoning, and as such should receive close scrutiny in a model of the MNE. We now present the assumptions of a model that explicitly capture these three conditions.

Specifically, returning to our dyadic scenario, suppose that each firm has the opportunity to make a relationship-specific linking investment, i.e., adapting its assets to those of the other firm. Following Grossman & Hart (1986), the benefit of this investment is a joint payoff that occurs later and the appropriation of which is therefore subject to bargaining between the two firms (at least if they are independent). Often, such investments will tend to be observable but non-verifiable, such that they can be implemented within an MNE by its owner, but cannot be written into a court-enforceable contract between the firms, thus giving rise to nontrivial transaction costs. In addition, the cost of the investments (including both outlay of resources in adaptations and expense on contractual safeguards) depends on the international diversity and distance (henceforth, "diversity") separating the two firms. If diversity is high (for example, if the firms are located in different regions), adaptation is particularly costly as it would imply making more changes to products and processes of each firm, and incurring high coordination costs across borders. At the same time, at very high levels of diversity, both the need for adaptations and cost of making the requisite adaptations become so high that no exchange will take place without them, implying an upper limit on the geographic expansion of MNEs.[i]

Based on these assumptions, our model can predict how the optimal governance form depends on the level of international diversity and the firms' capabilities for internalization and quasi-internalization. The results are illustrated in Figure 1, derived formally in the Appendix, and explained intuitively here.

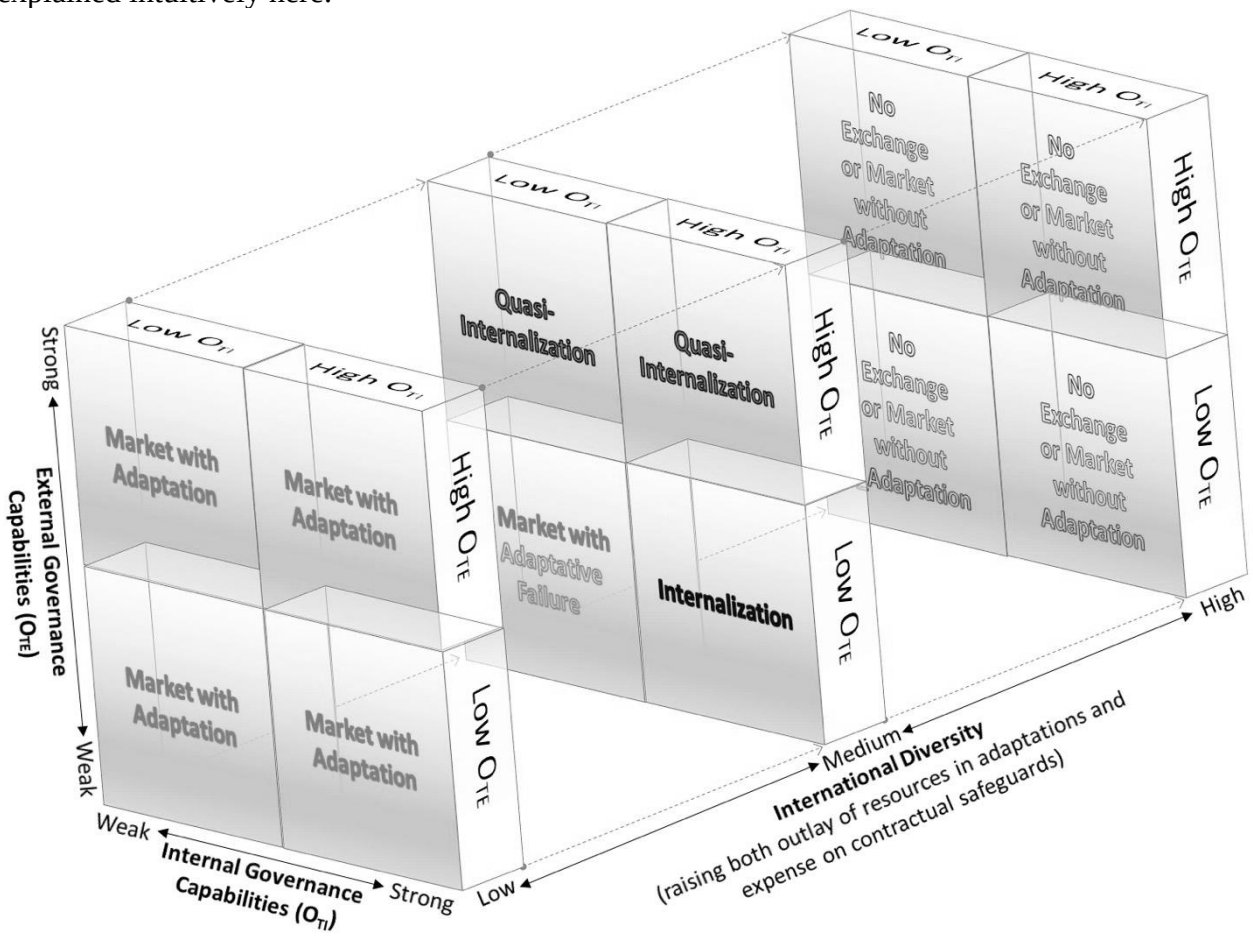

Figure 1. Interaction between International Diversity and Governance Capabilities (O_{TI} and O_{TE}) in Influencing the Optimal Choice of Governance Mode

First, if international diversity is high (represented by the back panel of the figure), the linking investments may be prohibitively costly, due to the extent of adaptation needed and the difficulty of coordinating and developing advanced contractual safeguards in the face of high uncertainty and asset specificity. One of two things can then happen: Either there will be no transaction at all and the MNE will have reached the limit to its scope, or a rather generic transaction will take place across borders through "market" governance where linking investments are not made (if such a transaction is profitable). The figure shows the former scenario, called "no exchange", whereas the latter would result in "market without adaptation" in the back panel.

If diversity is low, on the other hand (represented by the front panel of the figure), the beneficial mutual adaptations to the assets are relatively small and the coordination of the adaptations relatively easy, so that the investments create a sufficiently large value for the two firms to undertake them via market exchange. This can be seen as part of a "self-enforcing" global value chain (GVC) where rational actors can agree on investments that are ultimately in everyone's interests.

The interesting outcomes occur in the region of medium diversity (represented by the middle panel of the figure), where the governance capabilities become particularly decisive. In this region, value is maximized if both firms invest, but neither firm will, due to the holdup problem. In effect, while they can both agree to the economic logic of making the investments, each firm will find it rational to unilaterally defect from such an agreement—in other words, to 'free ride' on the partner's investment. If left to the market, the investments will not be made (as they cannot be written into enforceable contracts) and opportunities for value creation through mutual adaptation are foregone. This outcome, which is labelled "adaptative failure" in the lower-left quadrant of the middle panel, corresponds to the situation described by Parkhe (1993), where two partners in a strategic alliance fail to produce value, due to a free-rider problem (Klein & Murphy, 1996) or a situation of 'shirking' or 'cheating' (Hennart, 1993; Chi, 1994). In a simplification of the option space available to decision makers, we describe here two solutions to this problem: quasi-internalization based on the 'shadow of the future', and internalization within the MNE.

The shadow of the future can ease free-rider problems (Parkhe, 1993). If the firms expect their mutually beneficial collaborative relationship to stretch some time into the future, they will invest and forego the short-term profits that they could have opportunistically appropriated by not investing, in order to preserve the productivity of the relationship. In other words, the linking investments are not a one-off decision, but rather the two firms will need to continuously update their assets and recalibrate them to one another as technologies and markets evolve. In a model of such behavior, the incentive to defect from an informal agreement to invest will depend on whether the firms are more forward-looking or more myopic.

One way to think about this is to see the ability of the MNE to organize in this way as a function of one or both firms' external governance capabilities, O_{TE} (Narula et al., 2019), defined as the resources and capabilities that facilitate the effectiveness (and lower the transaction costs) of governing external alliances or network relations, which also includes how to enter and manage these[ii] (including but not limited to "alliance capability", see Kale, Dyer and Singh, 2002; Heimeriks & Duysters, 2007). For example, if the firms have experience in managing and navigating networks and portfolios of alliances, they may be better able to create and maintain a

degree of mutual trust with their external partners. While Narula et al. (2019) did not explore the organizational locus of these capabilities, we recognize here (consistent with our non-MNE centric approach) that such capabilities could reside either within the MNE, within the local firm, or in both firms, as well as in the interaction and relationship between them. In that sense, O_{TE} in this model is defined on the *dyadic* level (similar to "relative absorptive capacity", see Lane & Lubatkin, 1998). Hence, it is likely to be higher if each firm's individual O_{TE} is higher, and there may be a positive interaction so that each firm's O_{TE} enhances the returns to the O_{TE} of the other. It is also possible that the O_{TE} governing the relationship is endogenous to the historical relationship between the firms and their knowledge of each other, such that it increases over time.

Above a certain threshold of dyadic O_{TE} (shown as a shift from the lower-left to the upper-left quadrant of the middle panel in the figure), a partnership of independent firms can therefore implement the investments, as in the relational value chain described by Gereffi et al. (2005). As shown in the figure, international diversity is an important determinant of this threshold: if diversity is very high, the costs of mutual adaptation rise and it then becomes almost impossible to implement the collaboration, while at low diversity, successful implementation is ensured under the market mechanism.

If the dyadic external governance capabilities O_{TE} are insufficiently strong for quasi-internalization to be feasible, however, internalization can still come to the rescue so long as the two firms have strong internal governance capabilities O_{TI} (as illustrated by the lower-right quadrant of the middle panel in the figure). We define O_{TI} as the resources and capabilities that facilitate MNE governance, including the management of HQ-subsidiary relationships (Aguilera, Marano & Haxhi, 2019) as well as capabilities to expand the corporation through merger or acquisition and reap the associated benefits through post-merger integration (Zollo & Singh, 2004, Graebner et al., 2016). Again, the *ex post* O_{TI} of the combined firm will depend in complex ways on the O_{TI} of each of the individual firms *ex ante*. If one firm acquires the other, it is likely that the acquiring firm will keep most of its management and organizational structure intact and therefore its O_{TI} will have the largest impact (while in a more equal merger, both firms may contribute their governance capabilities). In other words, while the O_{TE} of the two firms are likely to be complements, their O_{TI} are likely to be substitutes. It makes sense that the firm with the strongest O_{TI} should therefore be the acquirer, and in many (but not all) cases that would be an MNE with extensive experience in managing large cross-border bureaucracies as opposed to the local firm.

Internalization (adding a global HQ that manages the two units) can alleviate the free riding problem for a number of reasons, which is discussed in detail elsewhere (Narula et al., 2019) and will be further elaborated in the latter part of the paper. This power, of course, comes with its own costs, including not only the bureaucratic cost of a hierarchy (Williamson, 1991) but also the loss of flexibility due to a large resource commitment (Chi et al., 2019) and the added constraint from liability of foreignness (Zaheer, 1995). In this paper, we use the term "hierarchical cost" to refer to the totality of these costs.[iii] Only if the benefit of internalization—ensuring that the assets of the two firms are adapted to each other via the linking investments— exceeds its cost will one of the firms (presumably the MNE) internalize the asset recombination via an acquisition of the other firm.

Finally, if the external and internal governance capabilities of the firms (O_{TE} and O_{TI}) are both strong (as illustrated by the upper-right quadrant of the middle panel in the figure), both internalization and quasi-internalization could solve the problem in a cost-effective way. However, internalization is costlier and more complicated (for example, due to post-merger acquisition costs), and more irreversible (in the sense that it comes with greater sunk costs) as discussed earlier. Hence,

when both governance forms could work, we expect the firms to optimally select quasi-internalization. This is consistent with Williamson's (1975) notion of the market as a default solution and hierarchy arising only in the case of market failure.

So far, we have assumed the firms to be relatively symmetric in terms of their investment incentives, in the interest of maintaining a "non-MNE-centric" view. However, the conclusions might differ if there are substantial asymmetries between them, beyond the differences in governance capabilities. In particular, quasi-internalization is vulnerable to asymmetries in investment incentives between the firms, because the defection of one firm is sufficient to bring down a dynamic collaborative equilibrium. Conversely, a similar need for investments on both sides of the relationship ensures the "mutual hostages" that facilitate cooperation (Williamson, 1983).

Asymmetric incentives may therefore change the outcome in the top right quadrant, depending on the relative efficacy of quasi-internalization and internalization in mitigating the holdup problems facing the two firms.[iv] Specifically, if a party finds the payoff from defection to outweigh the gain from continued collaboration, the external governance capabilities may have limited impact on the efficacy of quasi-internalization. This condition can arise when the party's payoff from defection goes beyond the direct gain from the asset recombination. For instance, the local firm may be able to obtain the MNE's intellectual property (IP) and apply it to a different industry sector or geographic area at the expense of the MNE. Furthermore, the interdependencies between the firms may be asymmetric in the sense that one of the parties potentially suffers from a large loss beyond the gain from the asset recombination. For instance, if the local firm produces a lower-quality product bearing the MNE's brand, it could damage the MNE's reputation elsewhere outside the market where their collaboration takes place. Under these circumstances, internalization is likely to dominate quasi-internalization if the sensitive assets subject to a high risk of rent misappropriation are to be included in the asset recombination. Depending on the importance of those assets to the payoff from the transaction relative to their other complementary assets, the optimal solution could still be quasi-internalization that involves a recombination of the other complementary asset but excludes those sensitive assets.

Critique 1: Are Internalization and Quasi-Internalization Associated with Similar Mechanisms and Governance Capabilities for the MNE to Maintain Control?

With this framework in mind, we now return to the three critiques raised by FH. First, we agree with FH's observation that equating ownership with control is a simplistic view. Such a view was clearly present in the early versions of internalization theory, and some of the more recent extensions of the theory discussed the MNE's ability to control the behaviors of external partners without articulating how the mechanisms of control under internalization may differ from those under quasi-internalization. It should also be made clear, however, that the IB literature has advanced substantially in shedding light on the mechanisms of control under different organization modes, and many of these advances were summarized in our paper (Narula et al., 2019) that FH critiqued.

Early expositions of internalization theory, as Dunning (2003) observes in a review article, focused on administrative fiat as the governance mechanism that distinguishes internal transactions within the firm from external transactions on the market. The field has since gained a deeper understanding of the mechanisms that can be utilized in internal governance thanks to advances both within the field and in sister disciplines. Specifically, the power of an MNE's headquarters (HQ) includes not only the ability to make specific decisions but also the capacity to arbitrate inter-

subsidiary disagreements, design incentive systems, and train and socialize managers and employees (Hennart, 1991; Chi, 1998). Although the otherwise independent firms under quasi-internalization can also coordinate their activities via the assignment of control rights and cash flow rights between them, the decisions on the assignment of these rights must be negotiated between them and often rely on self-enforcement in implementation (Chi & Nystrom, 1994). Hence, the conceptual model presented in the previous section, supported by the formal model provided in the online Appendix, invokes the shadow of the future as the distinguishing control mechanism under quasi-internalization and treats administrative intervention from the HQ as the distinguishing control mechanism under internalization.

To further unpack the differences between the two mechanisms, we look at the problem of control through the lens of law and economics, a field that has informed transaction cost reasoning for decades. In particular, actions that need to be controlled for successful transactions to take place (including but not limited to linking investments) may be observable within the firm but non-verifiable between firms (Craswell, 2005). The fact that they are non-verifiable means that contracts based on those actions cannot be enforced in the courts—it would be very difficult to prove, for example, whether free riding has occurred with respect to transfer of tacit knowledge, collaborative efforts, managerial time investments and other issues that are highly specific to the technology, culture, and organization of the involved firms. Hence, contractual enforcement of international asset melding may be difficult. In comparison, it may be relatively clear within the MNE whether free riding has occurred among managers, and HQ managers can build this into their subjective evaluation of subsidiary managers. Importantly, since the MNE owns the assets that the subsidiary managers work with, they can fire the subsidiary manager while keeping the assets—whereas firing an external partner such as a local distributor means that the MNE also loses access to the assets that this partner possesses—assets that are crucial to the bundling intention to begin with. Hence, disciplining threats are more credible within the firm and this is an important aspect of organizing by "fiat".

Another aspect that also differs across internalization and quasi-internalization is the dynamics. Clearly, the collaboration between the MNE and the local firm is vulnerable to a breakdown in trust between the two parties, perhaps even caused by miscommunication or minor mistakes that would lead one party to perceive a lower effort by the other party and respond in kind. This vulnerability is much reduced in the fully internalized MNE, where the common ownership serves as a commitment towards a continuation of the relationship between subsidiary managers into the future, and thereby will make it easier for those managers to make relationship-specific investments. Of course, divestment can and do take place, but those are significantly costlier than walking away from an alliance with an external partner. At the same time, this dynamic is also the strength of quasi-internalization since it makes for a more agile strategy in a turbulent environment: if and when the market or the technology changes, previous partnerships can be dissolved, and new ones created so as to continuously bundle, unbundle and re-bundle the assets that are most synergistic at any given point in time.

This difference between internalization and quasi-internalization also means that we can avoid the trap of tautology: The MNE will not simply "choose the governance form for which it has the best capabilities" as mentioned initially—rather (as indicated in the top right quadrant of the middle panel in Figure 1), it will choose quasi-internalization if that is sufficient to ensure the desired value creation, and internalization only as a last resort if quasi-internalization fails (and internalization is not prohibitively costly). In turn, the sufficiency of quasi-internalization and the costliness of internalization are endogenous to the governance capabilities of the MNE. This view

can also potentially explain trends in the practice and theorizing of IB we have seen in the early parts of the 21st century. With mechanisms of external control becoming more sophisticated, full internalization has arguably become increasingly unnecessary[v] and large GVCs increasingly feasible, turning the capability to orchestrate complex networks into more important sources of competitive advantage. This suggests that a 'traditional' integrated MNE with strong O_{TI}, but weak O_{TE}, may be at a competitive disadvantage against a more 'modern' competitor with strong O_{TE} who can organize its international activities in a more agile and cost-efficient way using quasi-internalization.

FH also correctly point out that bounded rationality (Williamson, 1975) and bounded reliability (Verbeke & Greidanus, 2009) can degrade the HQ's ability to exercise control over its subsidiaries and result in "owning without controlling". This is certainly a challenge to the simplistic view that equates ownership with control. In the meantime, extant literature based on transaction cost reasoning also clearly recognizes the limits of the hierarchy due to what our model refers to as "hierarchical cost". It is useful to distinguish between efficient and inefficient adoptions of internalization as a solution to holdup problems in the face of hierarchical cost. Despite its limitations under bounded rationality and bounded reliability, internalization can still serve as the efficient solution if it provides the MNE with significantly greater control and ensures the needed linking investments to create sufficient value that outweighs the hierarchical cost. But if the MNE misjudges the benefit-cost calculus, possibly due to overconfidence in its internal governance capabilities, its adoption of internalization may be inefficient. We will discuss this latter scenario in responding to FH's third critique.

Critique 2: Does Internalization Theory Assume a Locus of Decision Making where the MNE is Always the All-Powerful Orchestrator?

The second critique by FH is that internalization theory assumes the MNE to be all powerful and unilaterally decide whether to internalize, quasi-internalize, or rely on the market. This point, which has also been touched upon by Strange and Humphrey (2019) and Benito, Petersen, and Welch (2019), relates to but differs from another, earlier critique of the theory: Hennart (2009) argues that the theory dwells on the attributes of the MNE's assets and ignores the possibility that the local firm may also possess valuable assets the MNE finds complementary but faces high transactions costs in accessing. This critique did point to a significant omission in the early versions of the theory. As demonstrated through the model we have developed in the present paper, however, the theory can be easily extended to address this omission. As for FH's critique concerning the theory's assumption about the power of the MNE, we submit that the question is how the MNE may interact with its exchange partner in the choice of asset recombination mode rather than whether the MNE's has the power to decide on its own. As shown in our conceptual model presented earlier in the paper and the formal model providing a more precise formulation in the Appendix, the interaction between the MNE and the local firm can be examined more precisely in a bargaining model without resorting to any specific assumption about their relative power. In fact, it makes little difference to the optimal solution negotiated between them whether one assumes the MNE to have more bargaining power than the local firm or vice versa.

To understand why this is the case, suppose for example that we are in the region of Figure 1 (the lower-right quadrant of the middle panel) where internalization is the efficient solution, because it is the only way to ensure valuable linking investments to mutually adapt the assets. If the firms collaborate in the market without those linking investments, they will earn lower joint profits, which they then will share among themselves based on their relative bargaining strength

(reflected, for example, in a licensing price paid by the local firm for the technological knowledge of the MNE). If they internalize, on the other hand, their collaboration will result in higher profits, because the linking investments can be implemented. This higher profit, however, will *also* be shared among them based on their relative bargaining strength—this time reflected in an acquisition price, paid by the MNE for the assets of the local firm (or vice versa). So, any conflict of interest between the two firms (e.g. the MNE prefers internalization while the local firm prefers the market) is irrelevant because it can be resolved by those side payments. Hence, if one governance form gives a higher joint surplus than another, then—*for any given relative bargaining strength*—that governance form will also give higher individual payoffs to each of the involved firms.

There are a few caveats to this argument. First, the holdup problem itself may be endogenous to the relative bargaining strength of the two firms. In particular, if we incorporate asymmetries into the model, we can see that bargaining strength matters. If the MNE is powerful, it can appropriate much of the value of its own and of the partner firm's linking investments, ensuring the former but disincentivizing the latter. This reveals what the "problem" of all-powerful MNEs is (when and if that happens empirically): it would make it difficult to motivate other firms in the GVC to make linking investments (e.g. adapting their market assets to the MNE's technologies). However, when the most important investments are on the MNE side (for example, Amazon investing in internet technology in the 1990s while buying up national ecommerce firms), this would be less of a problem. Second, power asymmetry between the MNE and the local firm is likely to affect the terms of their relationship under quasi-internalization (Strange & Humphrey, 2019; Benito, Petersen, & Welch, 2019). For instance, possession of unique assets (e.g. a global brand) is likely to favor the dominant MNE in the GVC (e.g. Nike or Apple) exercising direct control over the local firm's actions rather than a typical strategic alliance with more balanced assignment of control rights to the two sides. Third, there could also be transaction costs when the firms negotiate these side payments, potentially making them unable to reach an agreement and therefore resulting in suboptimal governance form, and the anticipation of bargaining might lead them to engage in destructive 'strategizing' actions that influence the outcome (Asmussen, Foss, Foss, & Klein, 2021). Finally, our central argument in this section is based on economic rationality, but the decisions of managers can deviate from such rationality due to various biases. For instance, the owners of a family firm may value the identity of the firm with their family and refuse to let the firm be acquired even when it is economically rational to do so (Kano & Verbeke, 2017). We will discuss the implications of this last two conditions in the next section.

Critique 3: Does Internalization Theory Rely on the MNE Being Super-Rational or Can it Fully Embrace Bounded Rationality and Uncertainty?

The third critique by FH is that internalization theory assumes the MNE (and/or the local firm) to know all transaction costs and thereby always have the capacity for making the right decision. This is an interesting observation, which begs the question of what will happen in a (highly realistic) scenario where transaction costs cannot be perfectly estimated. To see this, we first examine the question by relaxing the assumption that the two firms can perfectly estimate the payoff from every relevant mode choice (but still assuming that they agree) before allowing the possibility of divergent subjective assessments.

Elsewhere (Narula et al., 2019) we have discussed the possibility of boundedly rational choices being made about internalization, and we now unpack this argument further. A simple way to think about this is to assume that the firms do not know with certainty which quadrant of Figure

1 they are operating in. When their perception deviates from reality, they will then make wrong choices that come with various types of efficiency penalties. As related to internalization, we can distinguish between two types of penalties.

Over-internalization. The firms internalize even though they are operating in environments where internalization is too costly compared to the benefits that it brings. If the efficient outcome would be a market exchange with adaptive failure, the resulting MNE performs mutual adaptation and its strategic profile might thus resemble the global strategy (Bartlett & Ghoshal, 1989), where integration between geographically dispersed activities is pursued. These integration and adaptation efforts are economically meaningful and could enhance the performance along some dimensions. However, the benefits come at too high a cost, since they are more than offset by the hierarchical disadvantages of the MNE. If the efficient outcome would be a market exchange with no adaptation on the other hand, this MNE might internalize the activities in very diverse countries, but perform no mutual adaptation because the investments are too costly. Possibly, this would look like a multinational strategy (Bartlett & Ghoshal, 1989) where subsidiary managers have a lot of discretion and local adaptation is weighed above global integration. If the efficient outcome would be that of no entry into the local market occurs (no exchange), we get a similar result but with even worse performance: the MNE is also overextended in the sense that it is organizing transactions that are too expensive for a rational market actor to perform. Finally, if the efficient outcome would be market exchange with adaptation or quasi-internalization, the MNE is internalizing unnecessarily, since its objectives could have been achieved without incurring the additional hierarchical cost.

In all these cases, the overinternalizing firm will be at a performance disadvantage compared to the market, where independent firms are equally good at ensuring collaboration when appropriate, but without being burdened by the cost of hierarchy. Hence, the MNE will struggle in the competition against those local firms that are able to collaborate across borders in a more agile and less costly way. Depending on the competitive forces, this might eventually lead to divestments of the foreign assets and a reversal to the market or to quasi-internalization (as seen in the case of Yum! Brands in China), or a complete abandonment of the market (e.g. Walmart withdrawing from Germany and South Korea).

Under-internalization. When the firms fail to internalize when it is warranted to do so, the performance penalty depends on what they try to do instead. If they try to rely on the market, no adaptation will take place as each firm has insufficient incentives to make the mutually beneficial linking investments. If they try to rely on quasi-internalization via a strategic alliance, the collaboration will be impossible to sustain over the long term as the temptation to defect becomes too intense, and the partnership will be dysfunctional. In both of these cases, however, the under-internalizing firms will presumably learn quickly of their mistakes, when the linking investments fail to appear and they are penalized by poor market performance. This suggests that under-internalization is easier to correct than over-internalization is, and thereby supports a conservative approach to internalization when there is considerable uncertainty about the relative merits of different transaction modes.[vi]

The predictions of internalization theory are meant to be the long-term equilibrium choices after uncertainty about the variables affecting the relative merits of the relevant modes has diminished through learning. When there is still substantial uncertainty in the initial stage of an MNE's entry into a market, the analysis can benefit from the real options perspective that is compatible with and complementary to the transaction cost perspective that underlies internalization theory (Chi & McGuire, 1996; Chi & Seth, 2009). The real options perspective

views learning as an incremental process of acquiring new information and knowledge and bears considerable similarity to the evolutionary view of internationalization theory (Johanson & Vahlne, 1977; Buckley, Casson & Gulamhussen, 2002). For the purpose of modeling the process mathematically, real options theory treats each uncertain variable (e.g., profit, revenue or cost) as evolving stochastically over time and distinguishes explicitly two types of learning (Chi et al., 2019). One type narrows the probability distribution of the random change in the variable over time, reflecting the outcome of sensemaking (Weick, 1995); the other type alters the expected rate of change in the variable due, for instance, to knowledge acquisition, reflecting the outcome of organizational learning (Argyris & Schön, 1996). Intertemporal or interfirm variations in the expected rate of change in the variable can be attributed to differences in absorptive capacity (Chi & Seth, 2009).

The key tradeoff in real options analysis is between flexibility and commitment (Trigeorgis, 1996): a flexible mode such as export or joint venturing can be valuable because it does not run the risk of losing a large investment if the market falls far short of expectations, but a high commitment mode such as acquisition of a local producer becomes optimal when the MNE determines after a period of learning that it cannot fully exploit the market's potential without such an investment (Kogut, 1991). Some of FH's comments also point to the value of such a learning or evolutionary perspective in analyzing market entry modes under uncertainty. We agree with FH about the merit of a learning perspective, but we would also like to note that real options theory presents a learning perspective that is compatible with and complementary to internalization theory. It can furthermore be useful to think of O_{TI} and O_{TE} as being endogenous and prone to change over time as firms obtain new governance capabilities through learning, or by hiring or acquiring such capabilities in strategic factor markets.

Finally, we can further relax the assumptions of internalization theory to allow the possibility that the two firms disagree in their subjective assessments of the costs and benefits of internalization. Such a situation arises from the combination of two conditions: (1) one of them possesses information (based on an objective fact or an erroneous belief) that the other does not, and (2) the party with the private information is either unwilling to reveal it or unable to convince the other of its veracity. For instance, if the MNE proposes to acquire the local firm without being aware of certain defects in the firm's assets, the local firm will have no incentive to reveal any information about those defects. Alternatively, the MNE may suspect certain defects whose existence cannot be easily ruled out even if they do not exist, making it difficult for the local firm to convince the MNE of its true value in the negotiation. Under these conditions, quasi-internationalization in the form of an alliance can be an optimal initial choice because it enables the firms to gather more accurate information before consummating a full-blown acquisition, as articulated again in studies based on the real options perspective (Chi & McGuire, 1996; Tong & Li, 2013). This suggests an additional important difference between internalization and quasi-internalization when there are uncertainties about asset values.

It will be informative to explore what happens if they disagree as to whether internalization is the optimal solution when they have to make a choice (which may be altered later, possibly at a large sunk cost if for instance the choice is for the MNE to acquire the local firm). We conceive two scenarios, each with two sub-scenarios.

First, suppose that the MNE believes that both firms will make the linking investments if they have an arm's length deal or alliance, but the local firm does not intend to make the specific investment unless it becomes fully integrated with the MNE. A likely outcome is then initially an arm's length deal or alliance and possibly a subsequent switch to internalization if the initial

arrangement fails to elicit the linking investments from both sides. After a period of collaboration, the local firm may actually learn that the MNE is sufficiently trustworthy (i.e., after the MNE has demonstrated the true value of O_{TE}) for it to make the linking investment as well. On the other hand, if the local firm appears unwilling to make the linking investment, the MNE may acquire the local firm later to ensure that such an investment is made.

Second, suppose that the MNE believes that the optimal solution is to acquire the local firm, but the local firm does not share this view. The outcome will depend on whether the MNE's valuation of the local firm's assets is higher or lower than the local firm's own valuation, which could include nonpecuniary benefits such as a family firm's socioeconomic wealth (Kano & Verbeke, 2017). If the MNE is willing to pay more than the local firm's own valuation, the MNE will get its way, and the performance of the combined firm will depend on whether the MNE made the correct choice (i.e., whether O_{TI} is as strong as it believed). On the other hand, if the MNE is unwilling to pay as much as the local firm's own valuation, the negotiation of the proposed acquisition will fail. Then, they may miss a potentially profitable opportunity or explore whether an arm's length deal or alliance will still enable them to make the linking investments.

It is worth noting that, even though the early versions of internalization theory take a highly focused MNE-centric view, subsequent extensions of the framework including our broader MNE-centric view (Narula et al., 2019) have incorporated such game-theoretic analysis.

Discussion and Future Research

In their "point" paper, FH raise a number of valid questions about internalization theory and some recent extensions of the theory (e.g., Narula et al., 2019). We believe that these questions indeed deserve further attention from IB researchers. In responding to their critiques, we developed a capability-based model of internalization and quasi-internalization, highlighting the international melding of assets through linking investments and the associated transaction cost, to shed further light on the choice between them. Specifically, we scrutinized the differences between the mechanisms underlying these organizational alternatives and examined how their efficacy in mitigating transaction costs (particularly holdup problems) depends on the diversity and distance between the MNE's base and the host market and on the external and internal governance capabilities of the MNE. Diversity and distance are central constructs in the study of IB, and their incorporation in our model distinguishes the model from typical applications of transaction cost reasoning to modal choice without such deep contextualization.

We then use the insights from the model to respond to the three main critiques raised by FH. First, we show that the key mechanisms of governance for internalization and quasi-internalization – the power to intervene administratively versus the shadow of the future – are qualitatively different and should not be confused. There is indeed some justification for FH's critique that the differences are not always made clear in studies based on internalization theory. Second, we demonstrate that there is no need for internalization theory to assume that the MNE is all-powerful and able to dictate the choice of mode for asset recombination. At the same time, we do foresee some circumstances under which power asymmetries between the MNE and the local can affect the outcome of their negotiations on a potential collaborative arrangement or acquisition deal, as FH may have suggested. Third, we share FH's view that a learning perspective can provide insights on the evolution of an MNE's choice with regard to which asset recombination mode to adopt initially and switch to later on. Furthermore, we show that internalization theory has been extended to incorporate such a learning perspective. Specifically, we argue that the real options

perspective, in which the idea of uncertainty and learning is embedded, is compatible with and complementary to internalization theory.

Our model is admittedly a stylized one that makes a couple of deliberate simplifications worth discussing. First, while we focus on discrete governance forms, we appreciate that most transactions are realistically organized within a "swollen middle" where they combine different types of controls (Hennart, 1991). However, to merely place quasi-internalization in the middle of a continuum between pure firm and pure market would be a mistake, as quasi-internalization does *not* rely on a combination of behavioral and price-based controls, but rather, as argued in this paper, on distinct mechanisms that are relational and reputation-based. This is consistent with the suggestion by Bradach and Eccles (1989) that price-, authority-, and trust-based control mechanisms are independent of each other and often combined in both intra-firm and inter-firm governance situations.[vii] This implies that the space in which international governance takes place is in fact multi-dimensional, as illustrated in Figure 2.

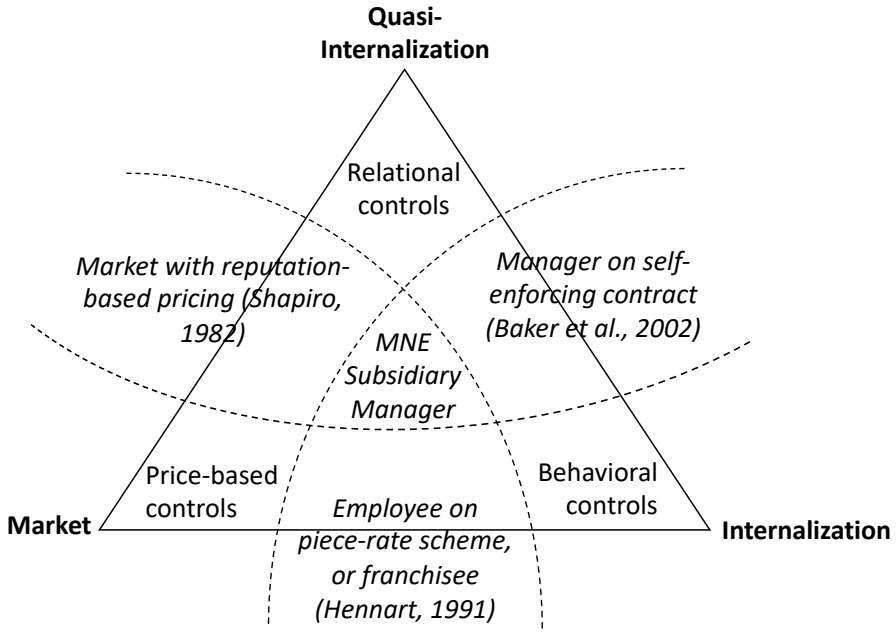

Figure 2. Relationship Between Three Control Mechanisms and Three Governance Modes

The horizontal axis in this triangle captures various combinations of price-based and behavioral controls. However, both of these types of controls are "instantaneous"—they are based on observations of prices and behavior in the present—in contrast to relational control, which is dynamic and future-oriented in its reliance on trust and reputation and therefor constitutes a third endpoint of the space. Of course, as shown on the two upper sides of the triangle, it is also possible to combine price- and behavior-based controls with relational controls. Finally, of particular relevance for international managers is arguably the middle of the space where all three types of controls are combined. For example, one could think of a foreign subsidiary manager, who is incentivized by behavioral controls (e.g. occasional monitoring by global HQ managers), price-based controls (e.g. when selling outputs to other units within the MNE), and relational controls (e.g. achieving a reputation within the firm for contributing to global innovation or branding), all at the same time. These may be highly complementary—in particular, managerial reputation may

be useful to induce efforts that are not easily priced or observed (directly), but only become evident over time with revealed outcomes. This could be particularly important to MNEs that prioritize corporate social responsibility, which is otherwise not easily incentivized (Asmussen & Fosfuri, 2019). In short, even though each of the three governance modes relies primarily on one of the three control mechanisms, efficient governance under each of the three modes often calls for the utilization of the other two mechanisms as well. Hence, strong O_{TI} or O_{TE} capabilities entail not only high competence in using the mechanism on which the corresponding mode relies primarily but also superior ability to combine the three mechanisms optimally.

Second, our model is dyadic in the sense that it focuses on the complementarity between two asset-controlling firms. However, the governance mechanisms described above should be equally applicable to multi-layered GVCs. An important question here is whether the governance capabilities have opportunity costs in use. For example, codified alliance capabilities (Dhanaraj, Lyles, & Steensma, 2008) are "scale free" (Levinthal & Wu, 2010) and could be deployed in an expansive network of GVC partners, while the skills and networks of individuals are "non-scale free" and thereby come with an upper limit to coordination and control. Similarly, codes of governance for HQ-subsidiary relationships can be replicated in new locations, while the international experience of the top management team is subject to the cognitive bandwidth of those managers (Aguilera et al., 2019). In general, when O_{TI} or O_{TE} are non-scale free, the use of them in one relationship depletes them and prevents them from being used in other relationships. This forces MNEs to be strategic about their deployment of these governance capabilities and perhaps rely more on market mechanisms in the less critical parts of the GVC.

A major part of our work in this paper is the development of the capability-based model of internalization and quasi-internalization. The model conceives an MNE's external and internal governance capabilities as determinants of choice between different modes of asset recombination. A difficulty that all theories on firm capabilities and their consequences face is the risk of being tautological. There have been extensive debates on the testability of the resource-based view (Priem & Butler, 2001; Barney, 2001). Although the idea that governance capabilities affect governance mode choices may be intuitive, testing this idea requires the development of nonobvious hypotheses linking observable antecedents for such capabilities to the choice of modes. This is a challenge that all IB scholars interested in the capability-based theories must tackle with both vigor and care.

In the construction of the model, we articulated why international diversity and distance may affect the choice of modes for asset recombination in international business, but much more work is needed for a fuller and more precise understanding of the linkages we suggested. The distance between nations and cultures has been conceptualized among multiple dimensions. Future research needs to explore which dimensions are important influencers and how a given dimension impacts the cost of adaption and the cost of coordination between the firms making the needed adaptations.

Finally, as pointed out by Strange and Humphrey (2019) and Benito et al. (2019), our understanding of the exact techniques for making quasi-internalization efficient is still limited. Even though the shadow of the future is conceptualized as a key mechanism for self-enforcing collaboration, it requires more research to understand what makes this mechanism work more effectively. Specifically, are there particular practices that a firm's managers can engage in to strengthen a partner's confidence in the accruement of benefits from continued collaboration? How do firms assess a potential partner's tendency toward cooperation and defection? What can a firm

do to enhance its own reputation as a reliable partner? Further understanding of these questions calls for more micro-level research on the behaviors of firms and their managers.

References

Aguilera, R. V., Marano, V., & Haxhi, I. (2019). International corporate governance: A review and opportunities for future research. *Journal of International Business Studies*, 50(4): 457-498.

Argyris, C., & Schön, D. 1996. *Organizational learning II: Theory, Method and Practice*. Addison Wesley: Reading, MA.

Asmussen, C. G., & Fosfuri, A. (2019). Orchestrating corporate social responsibility in the multinational enterprise. *Strategic Management Journal*, 40(6): 894-916.

Asmussen, C. G, Foss, K, Foss, N.J., and Klein, P. G. 2021. Economizing and strategizing: How coalitions and transaction costs shape value creation and appropriation. *Strategic Management Journal*. 2021; 42: 413– 434.

Baker, G., Gibbons, R., & Murphy, K. J. (2002). Relational Contracts and the Theory of the Firm. The Quarterly Journal of Economics, 117(1), 39-84.

Barney, J. B. 2001. Is the Resource-based 'view' a useful perspective for strategic management research? Yes. *Academy of Management Review* 26(1):41–5

Bartlett, C. A. and S. Ghoshal. 1989. *Managing Across Borders; The Transnational Solution*, Harvard Business School Press: Boston, MA.

Benito, R.G., Petersen, B., & Welch, L.S. 2019. The global value chain and internalization theory. *Journal of International Business Studies*, 50(8): 1414-1423.

Bradach, J. L., & Eccles, R. G. 1989. Price, authority, and trust: From ideal types to plural forms. *Annual Review of Sociology*, 15(1): 97-118.

Buckley, P., Casson, M, & Gulamhussen, M. 2002. Internationalization — real options, knowledge management, and the Uppsala approach. In *Critical Perspectives on Internationalization* (edited by V. Havila, M. Forsgren and H. Håkansson), Pergamon: Amsterdam, the Netherlands.

Cantwell, J., Dunning, J. H., & Lundan, S. M. 2010. An evolutionary approach to understanding international business activity: The co-evolution of MNEs and the institutional environment. *Journal of International Business Studies*, 41(4), 567-586.

Chi, T. 1994. Trading in strategic resources: Necessary conditions, transaction cost problems, and choice of exchange structure. *Strategic Management Journal*, 15: 271–290.

Chi, T., Li, J., Trigeorgis, L. G., & Tsekrekos, A. E. 2019. Real options theory in international business. *Journal of International Business Studies*, 50: 525–553.

Chi, T., & Nystrom, P. C. 1998. An economic analysis of matrix structure, using multinational corporations as an illustration. *Managerial and Decision Economics*, 19: 141-156.

Chi, T., & McGuire, D. J. 1996. Collaborative ventures and value of learning: Integrating the transaction cost and strategic option perspectives on the choice of market entry modes. *Journal of International Business Studies*, 27(2): 285–307.

Chi, T., & Seth, A. 2009. A dynamic model of the choice of mode for exploiting complementary capabilities. *Journal of International Business Studies*, 40(3): 365–387.

Chi, T., Li, J., Trigeorgis, L. G., & Tsekrekos, A. E. (2019). Real options theory in international business. *Journal of International Business Studies*, 50(4): 525-553.

Collinson, S., & Narula, R. 2014. Asset recombination in international partnerships as a source of improved innovation capabilities in China. *Multinational Business Review*, 22(4): 394-417.

Craswell, R. 2005. The "incomplete contracts" literature and efficient precautions. *Case Western Reserve Law Review*, 56(1): 151-160.

Dhanaraj, C., Lyles, M., & Steensma, K. (2008). *The Evolution of Dynamic Capabilities in Large Organizations: The Case of Alliance Management*. Academia.edu working paper.

Dunning, J.H. 1993. *Multinational Enterprises and the Global Economy*. Wokingham, England: Addison Wesley.

Dunning, J. H. 2003. Some antecedents of internalization theory. *Journal of International Business Studies*, 34(2): 108

Forsgren, M., Holm, U. 2021. Controlling without owning – owning without controlling: A critical note on two extensions of internalization theory. *Journal of International Business Studies* (forthcoming).

Graebner, M. E., Heimeriks, K. H., Huy, Q. N., & Vaara, E. (2017). The process of postmerger integration: A review and agenda for future research. *Academy of Management Annals*, 11(1): 1-32.

Gereffi G., Humphrey J. & T. Sturgeon. 2005. The governance of global value chains. *Review of International Political Economy*, 12(1): 78-104.

Grossman, S. J. & Hart, O. D. 1986. The costs and benefits of ownership: A theory of vertical and lateral integration. *Journal of Political Economy*, 94: 691-719.

Grøgaard, B., & Verbeke, A. 2012. Twenty key hypotheses that make internalization theory the general theory of international strategic management. In A. Verbeke & H. Merchant (Eds), *Handbook of research on international strategic management*: 7–30. Cheltenham: Edward Elgar.

Hart, O. 2009. Holdup, asset ownership, and reference points. *The Quarterly Journal of Economics* 24(1): 267-300.

Hart, O., & Moore, J. 1990. Property rights and the nature of the firm. *Journal of Political Economy* 98(6): 1119-1158.

Heimeriks, K. H., & Duysters, G. (2007). Alliance capability as a mediator between experience and alliance performance: An empirical investigation into the alliance capability development process. *Journal of Management Studies*, 44(1): 25-49.

Hennart, J.-F. 1991. Control in multinational firms: The role of price and hierarchy. *Management International Review*, 31 (Special Issue): 71-96.

Hennart, J. F. 1993. Explaining the swollen middle: Why most transactions are a mix of 'Market' and 'Hierarchy', *Organization Science*, 4(4): 529–547.

Hennart, J. F. 2009. Down with MNE-centric theories! Market entry and expansion as the bundling of MNE and local assets. *Journal of International Business Studies*, *40*(9), 1432-1454.

Johanson, J. K., & Vahlne, J. E. 1977. The internationalization process of the firm—A model of knowledge development and increasing foreign market commitments. *Journal of International Business Studies*, 8 (Spring/Summer), 23-32.

Kale, P., Dyer, J. H., & Singh, H. (2002). Alliance capability, stock market response, and long‐term alliance success: the role of the alliance function. *Strategic Management Journal*, 23(8): 747-767.

Kano L., & Verbeke, A. 2017. Family firm internationalization: Heritage assets and the impact of bifurcation bias. *Global Strategy journal*, 8(1): 158-183.

Klein, B. & Murphy, K. M. 1996. Vertical integration as a self-enforcing contractual arrangement. *American Economic Review*, 87(2): 415-420.

Kogut, B. 1991. Joint ventures and the option to expand and acquire. *Management Science*, 37(1): 19–33.

Lane, P. & Lubatkin, M. 1998. Relative absorptive capacity and interorganizational learning. *Strategic Management Journal*, 19(5): 461-477.

Lee, J.M., Narula, R. and Hillemann, J., 2021. Unraveling asset recombination through the lens of firm-specific advantages: A dynamic capabilities perspective. *Journal of World Business*, 56(2), p.101193.

Levinthal, D. A., & Wu, B. (2010). Opportunity costs and non‐scale free capabilities: profit maximization, corporate scope, and profit margins. *Strategic Management Journal*, 31(7): 780-801.

Narula, R. 2014. Exploring the paradox of competence-creating subsidiaries: balancing bandwidth and dispersion in MNEs. *Long Range Planning*, 47 (1-2): 4-15.

Narula, R. 2017. Emerging market MNEs as meta-integrators: The importance of internal networks. *International Journal of Technology Management*, 74(1/2/3/4): 214-220.

Narula, R. 2019. Enforcing higher labor standards within developing country value chains: Consequences for MNEs and informal actors in a dual economy. *Journal of International Business Studies*, 50(9): 1622-1635.

Narula, R., Asmussen, Chi, T., & Kundu, S.K. 2019. Applying and advancing internalization theory: The multinational enterprise in the twenty-first century. *Journal of International Business Studies*, 50 (8): 1231-1252.

Nash, J. 1953. Two-Person Cooperative Games. *Econometrica*, 21: 128-140.

Parkhe, A. 1993. Strategic alliance structuring: A game theoretic and transaction cost examination of interfirm cooperation. *Academy of Management Journal*, 36: 794-829.

Pitelis, C., & Verbeke, A. 2007. Edith Penrose and the future of the multinational enterprise. *Management International Review*, 47, 139-149.

Priem, R. L., & John E. Butler, J. E. 2001. Is the Resource-based 'view' a useful perspective for strategic management research? *Academy of Management Review* 26(1):22-40.

Shapiro, C. 1983 Premiums for High Quality Products as Returns to Reputations, *The Quarterly Journal of Economics*, 98 (4), 659–679

Shenkar, O., Luo, Y., & Chi, T. 2021. *International Business* (4th Ed). Routledge, NY.

Strange, R., & Humphrey, J. 2019. What lies between market and hierarchy? Insights from internalization theory and global value chain theory. Journal of International Business Studies, 50(8): 1401-1413.

Trigeorgis, L. 1996. *Real options: Managerial flexibility and strategy in resource allocation*. Cambridge: MIT Press.

Tong, T. W., & Li, S. 2013. The assignment of call option rights between partners in international joint ventures. *Strategic Management Journal*, 34(10): 1232–1243.

Verbeke 2009 *International business strategy*. Cambridge, UK: Cambridge University Press.

Verbeke, A., & Greidanus, N. 2009. The end of the opportunism vs trust debate: Bounded reliability as a new envelope concept in research on MNE governance. *Journal of International Business Studies*, 40(9): 1471-1495.

Weick, K. E. 1995. *Sensemaking in Organizations*. Sage: Thousand Oaks, CA.

Williamson, O. E. 1983. Credible commitments: Using hostages to support exchange. *American Economic Review*, 73(4): 519-540.

Williamson, O. E. 1975. *Markets and hierarchies: Analysis and antitrust implications*. New York, NY: Free Press.

Williamson, O. 1991. Comparative economic organization: The analysis of discrete structural alternatives. *Administrative Science Quarterly* 36(2): 269-296.

Zaheer, S. 1995. Overcoming the liability of foreignness. *Academy of Management Journal*, 38(2): 341-363.

Zollo, M., & Singh, H. 2004. Deliberate learning in corporate acquisitions: post‐acquisition strategies and integration capability in US bank mergers. *Strategic Management Journal*, 25(13), 1233-1256.

Appendix

Starting from Hennart's (2009) asset bundling framework, we focus on two firms, an MNE and a local firm in a host market, who have complementary assets that they can bundle in order to generate value in the host market. If they collaborate, they earn a base payoff of $a_0 - a_1 D$, where D is the diversity and distance between the two countries and each of the subscripted a is a parameter. This is a coalitional payoff, and they bargain over the division of this payoff ex post as described by Nash (1953), splitting the quasi-surplus from collaboration evenly. We assume for simplicity that both firms have outside options of 0.

Suppose that both the MNE and the local firm can make "linking investments" in mutually adapting their assets to each other. This increases the coalitional payoff by the amount b. However, the investing firm has to pay an upfront cost of cD in order to make the investment. The resulting payoffs of the two firms, depending on their investment choices, are shown in Figure A1:

L \ M	Invest	Don't
Invest	$(a_0 + 2b - a_1 D)/2 - cD$ $(a_0 + 2b - a_1 D)/2 - cD$	$(a_0 + b - a_1 D)/2$ $(a_0 + b - a_1 D)/2 - cD$
Don't	$(a_0 + b - a_1 D)/2 - cD$ $(a_0 + b - a_1 D)/2$	$(a_0 - a_1 D)/2$ $(a_0 - a_1 D)/2$

Figure A1. Coalition Payoff Matrix

This model captures the holdup problem that is described informally by Hennart (2009) and formalized by several scholars, in particular Grossman and Hart (1990). First, we can identify when it is efficient (value maximizing) for the two firms to make the investments. This happens when diversity is below a certain threshold, given by:

$$b > cD \Leftrightarrow D < b/c \equiv \overline{D}_E.$$

Second, we can identify when the firms actually will make the investments, given that they expect a bargaining process where the holdup problem potentially makes it difficult for them to recoup the investment cost. Since the other firm will be able to appropriate half of the benefit (the addition to the coalitional payoff due to the linking investments), it will be rational to invest only if diversity is below another threshold, given by:

$$b/2 > cD \Leftrightarrow D < b/2c \equiv \overline{D}_N = \overline{D}_E/2.$$

Hence, as long as $\overline{D}_N < D < \overline{D}_E$, we get the holdup problem for moderate levels of diversity, reflected in a Prisoner's Dilemma where neither firm invests, even though they would both be better off if they did.

Finally, note that the level of diversity also determines whether the payoffs, with as well as without linking investments, are positive and therefore whether the combination of the assets is feasible. The base surplus (the coalitional payoff without investments) will be larger than 0 as long as

$$a_0 - a_1 D > 0 \Leftrightarrow D < a_0/a_1 = \overline{D}_B,$$

while the surplus with investments will be positive as long as

$$a_0 - a_1 D + 2b - 2cD > 0 \Leftrightarrow D < (a_0 + 2b)/(a_1 + 2c) = \overline{D}_S.$$

There are two possibilities: (1) If the investments have a sufficiently attractive cost-benefit ratio ($b/c > a_0/2a_1$), we get $\overline{D}_S > \overline{D}_B$ and so there is a range of diversity in which the asset bundling only takes place if the investments can be guaranteed, and otherwise no entry occurs. On the other hand, (2) if this inequality is not fulfilled, there will be a range of diversity where the bundling will take place but where the linking investments are prohibitively costly. This scenario, which is the one shown in Figure A2 below (called "market with no adaptation"), could for example respond to a scenario where the MNE pursues a global strategy and exports a standardized product to a local distributor.

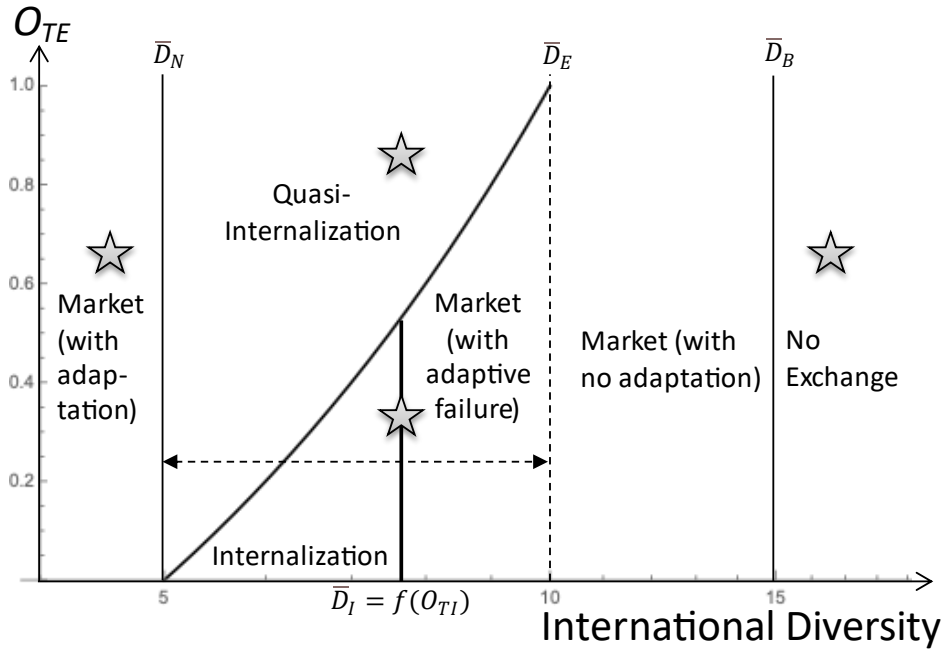

Figure A2. Influences of O_{TI} *and* O_{TE} on Optimal Choice of Governance Mode under Different Levels of International Diversity

Now, we derive the conditions for quasi-internalization, which we model as a self-enforcing contract between independent firms using trigger strategies. Suppose that $\overline{D}_N < D < \overline{D}_E$ such that

we get a Prisoner's Dilemma game in Figure A1, in which the suboptimal Nash equilibrium is for both firms to not invest in a one-shot game. In a repeated game, however, each firm can follow the strategy: invest in the first round, and in each subsequent round as long as everyone has always invested, and do not invest otherwise. What does it take for such a strategy to be a best response to a similar strategy followed by the other firm? Each firm can reap the defection payoff ($(a_0 + b - a_1 D)/2$) by not investing in the first round, i.e. free riding on the other firm's investment. However, this triggers the other firm's retaliation, and hence will ensure the Nash payoff of $(a_0 - a_1 D)/2$ forever after. With a discount factor of δ, this gives a net present value of $(a_0 + b - a_1 D)/2 + (a_0 - a_1 D)\delta/2(1-\delta)$. In comparison, cooperating by investing in every round gives a net present value of $(a_0 + 2b - a_1 D)/2 - cD + ((a_0 + 2b - a_1 D)/2 - cD)\delta/(1-\delta)$. It is better to collaborate if the firms are sufficiently forward looking, i.e.

$$\delta > 2cD/b - 1 \equiv \bar{\delta}.$$

This threshold is increasing in diversity (rising from 0 at $D = \bar{D}_N$ to 1 at $D = \bar{D}_E$), suggesting that it is more difficult to uphold a self-enforcing contract with a distant partner where the costs of the linking investments and thereby the free riding incentives are high. We assume that $\delta'(O_{TE}) > 0$, with the Figure shown simply for $\delta = O_{TE}$.

Within the Prisoner's Dilemma range, if δ is not sufficiently high, the only way to ensure the linking investments is to internalize. To simplify, we do not distinguish here between forward and backward integration, but simply assume that internalization will enable the firms, by means of hierarchical fiat, to ensure that the linking investments are made. Suppose that internalization comes at a hierarchical cost of h. In that case, internalization results in a surplus of $a_0 - a_1 D + 2b - 2cD - h$ while the market (resulting in non-adaptation) results in $a_0 - a_1 D$. The former is higher than the latter if

$$D < (2b - h)/2c \equiv \bar{D}_I.$$

As long as $h < b$, this threshold is within the range and hence there is a range $\bar{D}_N < D < \bar{D}_I$ where internalization is the optimal solution. Below this threshold, internalization is not necessary, and above the threshold, the problem that it solves is no longer worth solving. On the other hand, if $h > b$, internalization is prohibitively costly and will never happen. We assume that $h'(O_{TI}) < 0$. This implies, as indicated in the figure, that the threshold $\bar{D}_I$ itself (marked with the vertical black line in the figure) is a function of O_{TI}: If O_{TI} is high, the threshold shifts to the right and then internalization becomes dominant in the space under the diagonal line. On the other hand, if O_{TI} is low, the threshold shifts to the left and it is more likely to get adaptive failure in that space. The figure itself is shown for the following parameter values: $a_0 = 4.5$, $a_1 = 0.3$, $b = 4$, $c = 0.4$, and $h = 2$.

The stars in the figures show the values for which the results in the matrices in Figure 1 of the paper obtain. The leftmost star is the front panel (low diversity) and the rightmost star is the back panel (high diversity). The middle stars correspond to the middle panel for high and low O_{TE}, respectively. For high O_{TE}, we always get quasi-internalization, as indicated by the position of the top star. For low O_{TE}, on the other hand, it depends on the value of O_{TI}. When O_{TI} is low, $\bar{D}_I$ shifts to the left and we get market with adaptive failure, whereas with high O_{TI} it shifts to the right and we get internalization.

[i] Such an exchange failure can arise from a combination of two conditions. First, when the level of geographic diversity is high, a simple recombination of the two firms' assets cannot yield a net economic benefit unless their assets undergo substantial adaptations. Second, the high level of diversity also gives rise to high transaction costs that result in the failures of all three types of markets for effecting the requisite adaptations (i.e., market for the services of the assets, market for the assets themselves, and market for the control of the firm possessing the assets).

[ii] In the formal model presented in the Appendix, we assume that the discount factor of the firms (which can be thought of as its perceived probability for a future payoff to materialize) is an increasing function of their external governance capabilities O_{TE}, i.e. a rise in O_{TE} enlarges the present value of all payoffs in the future.

[iii] In the formal model presented in the Appendix, we assume the hierarchical cost to be a decreasing function of the internal governance capabilities O_{TI}. It is worth noting here that geographic diversity is another key determinant of the hierarchical cost because the capacity of MNE managers is inevitably constrained by the institutional and cultural contexts in which they developed their management skills.

[iv] We do not model these asymmetries in the model presented in the Appendix, but discuss their implications informally in this paragraph.

[v] For example, there has been a proliferation of standardized monitoring and certification organizations (e.g. Veritas) that take over the role of controlling the quality and output of non-affiliated suppliers, thereby facilitating cascading control (Narula, 2019) and avoiding the need for MNEs to actively control all suppliers through full internalization. This could be thought of as MNEs "hiring" additional O_{TE} from these organizations.

[vi] The exception is when the MNE stays out of the foreign market altogether (no entry) while it should have internalized. In that case, it will only discover its mistake in the long term if it finds itself struggling in the competition against MNEs who have leveraged their international presence and internalization to reap global integration benefits.

[vii] Note that the way in which Bradach and Eccles (1989) defines trust explicitly includes our concept of reputation-based mechanisms (e.g. as being based on the shadow of the future), but is somewhat broader in that it also includes social norms and "clans" as described by Ouchi (1980).