Transaction Cost Analysis in Cross-Border Distribution Arrangements: Sources and Persistence of Misalignment

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Abstract

This paper applies Transaction Cost Economics to analyse how cross-border distribution transactions are arranged from the suppliers' perspective. Using 29 semi-structured interviews and comparative analysis of six cases spanning contract manufacturing, brand distribution, cross-border e-commerce (CBEC) platforms, and direct-to-consumer (D2C) channels via company-owned websites, we develop the concept of Required Asset Specificity (RAS). RAS distinguishes between the minimum specific investment required for participation (Minimum Participation RAS) and the level at which the transaction can be conducted efficiently (Efficient RAS). Within the discriminating alignment framework, RAS refines the operationalisation of asset specificity by recognising that transaction-specific investment is not always discretionary, and establishes two reference points for diagnosing investment distortion and consequent governance misalignment. We find that investment distortions–over-investment and under-investment–arise from bounded rationality, and can be amplified by cross-border conditions. Empirical findings show that misaligned arrangements persist when sustained by motivations including commitment signalling, residual profit pursuit, brand protection, and escape from prior lock-in; conversely, aligned arrangements prove unstable when these motivations are unmet. The paper refines the discriminating alignment framework by enhancing its diagnostic precision for analysing the governance of cross-border distribution.

Keywords: Transaction Cost Analysis; Cross-Border E-Commerce; Distribution Channels Arrangement; Organisational Arrangement Misalignment

1 Introduction

Cross-border e-commerce (CBEC) has become a significant export mode, in China alone, export volume through such platforms reached 2.63 trillion RMB in 2024 (accounts for 10.2% of the total trade volume), with over 120,000 participating firms (National Bureau of Statistics of China, 2025). The dominant explanation for export mode choice in International Economics, the productivity-sorting framework, predicts a strict ranking: the most productive firms export directly, less productive firms export through intermediaries indirectly, and the least productive firms only serve the domestic market (Ahn et al., 2011; Akerman, 2018; Melitz, 2003). However, with the widespread adoption of e-commerce as an alternative, the prediction is disrupted: some highly productive firms still export indirectly via traditional intermediaries, while less productive firms export directly via CBEC. This pattern cannot be readily explained by the productivity-sorting framework, which relies on fixed-cost thresholds as the determinant of export mode choice. A fuller account requires a theoretical lens that attends to the broader attributes of the transaction itself. This paper conceptualises export mode choice as an organisational arrangement decision through the lens of Transaction Cost Economics, with different modes reflecting varying degrees of forward integration into distribution (Williamson, 1985, 1991). We attempt to answer the following research questions:

1. How do organisational arrangements for cross-border distribution align—or fail to align—with the transaction attributes predicted by the discriminating alignment hypothesis?

2. What gives rise to misaligned organisational arrangements in cross-border distribution, what sustains them, and what accounts for the instability of aligned ones?

Informed by the theoretical perspective outlined above, this study adopted an exploratory qualitative research design. We conducted 29 semi-structured interviews across three rounds with practitioners from Chinese export firms engaged in cross-border e-commerce. Following a comprehensive examination of all interview data, six representative cases were selected for in-depth comparative analysis, spanning contract manufacturing, brand distribution, CBEC platform sales, and direct-to-consumer (D2C) channels via company-owned websites.

This process yields an analytical framework centred on Required Asset Specificity (RAS), which distinguish between the minimum specific investment required for participating in certain channel and the efficient level at which the transaction can be conducted effectively—which together establish two reference points for diagnosing investment distortion and governance misalignment. The level of RAS rises with the degree of forward integration: from the supplier's perspective, greater integration into distribution activities

demands higher transaction-specific investment. This relationship is, however, context-dependent: the level of RAS associated with a given degree of forward integration varies across suppliers, as asset specificity is inherently relative—investment that constitutes a specific asset for one firm may represent a general-purpose resource for another. Applying this framework to the case data, we report two main findings. First, investment distortions arise in both directions relative to the RAS, each driven by a distinct mechanism rooted in bounded rationality and amplified under cross-border conditions. Second, misaligned governance arrangements may nonetheless persist when suppliers' strategic motivations are sufficient to sustain participation, while even aligned arrangements can prove unstable when the motivations go unrealised. Taken together, these findings contribute to the discriminating alignment framework by enhancing its diagnostic precision for analysing the governance of cross-border distribution.

The remainder of this paper is organised as follows: Section 2 reviews relevant literature, Section 3 constructs the analytical framework; Section 4 introduces the research methodology; Section 5 presents empirical findings; Section 6 discusses theoretical contributions and limitations.

2 Literature Review

This review covers three bodies of literature. Section 2.1 reviews the productivity-sorting framework that dominates the analysis of export mode choice, and identifies its limitations in explaining emerging patterns—calling a shift to a transaction cost perspective. Sections 2.2 and 2.3 review the TCE application in distribution channel governance and cross-border transactions, respectively. These two bodies of work have developed largely in isolation from one another, and neither has systematically addressed the transactional conditions specific to cross-border distribution—bringing them together motivates the analysis undertaken in this paper.

2.1 Export Mode Choice and the Productivity-Sorting Framework

Regarding the choice of export mode, existing literature in International Economics has developed a theoretical framework with productivity as the core explanatory variable. The foundational model of (Melitz, 2003) demonstrates that firm-level productivity differences determine export participation: only firms above a certain productivity threshold find it profitable to serve foreign markets; firms below the threshold cannot sustain export operations and are eventually forced to exit. The mechanism driving this result is that exporting requires a fixed-cost investment in establishing foreign distribution channels, and only sufficiently productive firms can cover this cost. That is, productivity

determines entry, while profitability determines persistence.

Subsequent extensions introduced intermediaries into Melitz's model underpinned by the same mechanism, generating a three-tier productivity sorting: the most productive firms export directly, moderately productive firms export indirectly through intermediaries, and the least productive firms serve only the domestic market (Ahn et al., 2011). In this framework, trade intermediaries can spread the fixed costs across multiple products, thereby generating economies of scope, allowing less productive firms to engage in export activities, though at the cost of charging suppliers a markup (Akerman, 2018). This implies that, when fixed costs are placed at the centre of the analysis, a strict productivity sorting emerges: as long as a firm is sufficiently productive, it will prefer direct export over indirect export to avoid the intermediary markup. By extension, firms that find their export operations unprofitable would be expected to retreat along this ordering—from direct to intermediary-assisted export, or from export to the domestic market—rather than persist in arrangements they cannot sustain.

This theoretical framework cannot account for certain patterns in firms' export mode choices. Nor can it explain why firms persist in arrangements that appear unprofitable. The rise of cross-border e-commerce provides a context in which these limitations become particularly visible. Despite having the productivity to export directly, some firms continue to rely on traditional intermediaries—and persist in arrangements that appear unprofitable. This suggests that fixed-cost considerations are not the sole factor firms weigh in their export mode decisions.

In sum, the productivity-sorting framework offers a parsimonious account of export mode selection, but its explanatory power is bounded by the assumption that fixed costs are the decisive parameter. Once that assumption is relaxed—the question shifts from whether a firm can afford to export directly to how it organises its cross-border transactions. This reframing calls for a theoretical lens that can accommodate multiple transaction attributes simultaneously, which motivates the turn to Transaction Cost Economics.

2.2 Transaction Cost Economics and Distribution Channel Governance

Conceptualising export mode choice as the organisational arrangement (OA) for cross-border distributing activities allows us to formulate the issue as a contracting problem. Transaction Cost Economics (TCE) provides a framework suited to analysing such contractual governance decisions (Williamson, 1975, 1985, 1991). Central to TCE, the discriminating alignment hypothesis predicts that OAs should align with the attributes of transactions (asset specificity, frequency and uncertainty). Among these, asset specificity is defined by the redeployability of a durable investment: the degree to which its value is preserved when redeployed to the next-best alternative use. While specific asset

may overlap with fixed costs, the two are not equivalent—fixed costs capture the scale of investment required to enter a market, whereas asset specificity captures the governance consequences of the investment (Williamson, 1985, ch. 2). This distinction matters: productivity-based models of export mode operate along the fixed-cost dimension, leaving the governance costs outside their scope. TCE addresses precisely this gap—though its baseline predictions take the level of asset specificity as exogenously given and assume that, prior to relationship-specific investment (fundamental transformation), a large-numbers competition condition holds.

TCE has been applied to both the governance of distribution activities and the cross-border transactions, making it a particularly relevant theoretical lens for analysing export mode choice. Williamson (1985, ch. 5) set out the general mechanism for forward integration into distribution: when distribution involves branded products or services, manufacturers are motivated to integrate forward in order to exercise quality control. In doing so, externality concerns are mitigated, at the cost of potential economies of scope that could have been realised through market governance, whereby distribution is conducted via independent distributors. In line with this, Lafontaine and Shaw (2001) explicitly articulated this mechanism in the context of franchising contracts by centralising brand assets in the analysis. They argued that when brand value is high, franchisees have stronger incentives to free ride on the brand name. Under such conditions, firms tend to adopt company-owned outlets in order to enhance control. In essence, this choice reallocates residual claimancy rights to mitigate the risk of opportunistic behaviour.

Beyond brand assets, other types of asset specificity and transaction attributes have been recognised and examined as determinants of downstream integration decision. John and Weitz (1988) identified specialised human assets as a key source of asset specificity; moreover, following the transaction cost analysis (TCA) tradition, they included uncertainty in the analysis. They concluded that firms were less likely to use independent channels when asset specificity and uncertainty levels were higher.

They also categorised distribution channels into direct and indirect modes, identifying the core distinction as whether the firm retains the claim to residual profit—present in the former arrangement but absent in the latter. This distinction effectively captures the most fundamental motivation underlying the governance decision—whether to distribute through independent resellers or to integrate. However, important questions remain underexplored within the domain of bilateral contracts, particularly how such contracts are designed and how safeguard mechanisms operate in practice.

2.3 Transaction Costs Economics in Cross-Border Exchange

TCE has also been widely applied to the analysis of cross-border transactions. Within the international business literature, internalization theory, rooted in transaction cost

reasoning, has been used to explain firms' choice among alternative modes of international market entry, including FDI, exporting, and licensing (Rugman et al., 2011). The central argument of internalization theory is that FDI serves as a means for firms to establish proprietary protection over their firm-specific advantages—derived from specialised knowledge or capabilities—when external markets for such assets are subject to failure. While this framework effectively explains when firms choose to internalize cross-border transactions, it does not systematically examine how transaction attributes vary under cross-border conditions, nor how these variations correspond to distinct organisational arrangements within a given entry mode—particularly within exporting, where different contractual structures may address different transactional risks.

Within international trade, a more directly relevant strand of work has examined how transaction costs shape the organisation of cross-border exchange. Rauch and Trindade (2002) demonstrated empirically that business and social networks reduce transaction costs in international trade, both by facilitating information transmission and buyer–seller matching, and by enabling community-based sanctions that suppress opportunistic behaviour. They also noted that domestic networks may impede trade by facilitating collusion that restricts foreign firms' market access, and that firms lacking such network ties may turn to intermediaries as an alternative mechanism—a motivation for intermediary use that is distinct from the productivity-based account.

More fundamentally, Antras (2003) introduced incomplete contracts into an international trade model to analyse the organisational boundary between final-goods producers and their input suppliers across borders. In his framework, the production of intermediate goods requires relationship-specific investments, and because contracts governing these transactions are inherently incomplete, the investing party faces an ex post holdup problem. The governance arrangement therefore reflects a trade-off faced by the final-goods producer between mitigating its exposure to opportunistic behaviour and preserving the supplier's investment incentives—with the allocation of residual rights of control serving as the central instrument through which this trade-off is managed. Antràs's framework shares with TCE a central premise: that the presence of relationship-specific assets fundamentally shapes the design of governance structures. While his analysis focuses on the production stage of cross-border transactions, the underlying insight carries significant implications for the distribution stage, where exporters' investments in establishing foreign channels may be similarly exposed to transactional risks.

In sum, existing research has made significant advances in applying transaction cost analysis to the governance of distribution channels and to the organisation of cross-border transactions, respectively. Yet relatively little attention has been paid to the specific transactional conditions that arise when distribution activities extend across borders. In particular, it has not been systematically examined how cross-border conditions alter the nature of relationship-specific investments in distribution activities, what distinct forms

of uncertainty arise in this context, and whether—and how—different contractual arrangements between exporters and their intermediaries serve to address the transactional risks rooted in these attributes.

3 Analytical Framework

As set out earlier, this study conceptualises export mode choice as an organisational arrangement for cross-border distribution. In this sense, the distribution activities can be organised either by the suppliers themselves (hierarchy) or by the independent distributors, who act as service providers performing the distribution functions. The contractual arrangements of the latter range from simple purchase orders (market) to more complex bilateral contracts with safeguard designs (hybrid forms). Understanding which arrangement is observed—and why—requires attending to the transaction costs that each entails.

Positing by the Discriminating Alignment Hypothesis, transaction cost economising can be achieved by aligning governance structures with the attributes of the transactions in a discriminating way (Williamson, 1991). In the heuristic model, asset specificity is taken as given and used to predict the efficient choice of governance structure. This analytical direction rests on the large-numbers competition assumption: prior to the fundamental transformation, multiple qualified suppliers are available, and counterparties "may opt for either general-purpose or special-purpose technologies" (Williamson, 1985, p. 54). In the context of distribution, this condition implies that product suppliers can freely select among independent service providers or internalise the distribution function—a choice that largely determines the governance structure, since the type of counterparty maps onto the degree of forward integration.

However, cross-border distribution condition shows the service of distributing can be a scarce resource. Products suppliers have limited access to distribution channels, especially when they are exporting to a new market, the existing business and social networks in the foreign market may even be the hindrance (Rauch & Casella, 2001). As a result, for product suppliers, how to distribute is not always a discretionary choice; accordingly, the level of asset specificity cannot be taken as given. This paper therefore works within the main model of Riordan and Williamson (1985), in which both the governance structure and the level of asset specificity are treated as endogenous. Riordan and Williamson, however, regarded the scenario in which governance is externally constrained as a theoretical possibility rather than a practical concern; this paper argues that cross-border distribution presents precisely such a setting.

Under the main model, when the governance structure is externally constrained, the level of asset specificity that minimises transaction costs can be determined for that given structure. The main model provides the first reference point: the optimal level of asset specificity under the given governance structure, here termed Efficient RAS—the

level at which the transaction can be conducted efficiently. A second reference point, not identified in the existing framework, arises from the structural characteristics of distribution channels: participation in a given channel requires a minimum threshold of specific investment, below which the supplier simply cannot operate within it. This threshold is termed Minimum Participation RAS. At this level, the supplier faces a binary decision—either make the required investment and enter the channel, or forego it entirely. There is no discretion over the level of investment, only over whether to invest. Beyond this threshold, suppliers may exercise discretion, and it is within this discretionary range that the Efficient RAS becomes the relevant benchmark.

Neither reference point is uniform across investing parties for a given channel. Between transaction counterparties, commercial intermediaries—by bundling distribution services and dedicating assets and learning capabilities—can reduce transaction costs and thereby lower the effective level of asset specificity they face (E. Brousseau et al., 2002). When suppliers forward-integrate into distribution, they forgo these aggregation advantages and consequently face a higher RAS by themselves. This asymmetry illuminates the trade-offs suppliers confront as they integrate further into distribution. The same logic applies laterally across suppliers: those who have developed comparable distribution capabilities through sustained channel participation—effectively acting as their own intermediaries—face lower RAS for the same channel than those entering it for the first time. This variation provides a basis for examining heterogeneity in investment decisions across suppliers operating within the same governance structure.

A further diagnostic consideration concerns the break-even point—the level beyond which the cost of transaction-specific investment exceeds the returns from final demand (Williamson, 1985, ch. 7). Because decision-makers are boundedly rational, the break-even point cannot be known with precision ex ante. This limitation shapes the investment decision through two channels. The first operates directly on the supplier as investor: when the supplier cannot ascertain whether the break-even point will be reached, and given that transaction-specific assets are by definition difficult to redeploy, the expected cost of over-commitment exceeds that of under-commitment. The second channel operates indirectly, through the transaction counterparty: the counterparty's willingness to invest in safeguard design is itself bounded by its own break-even constraint. When the counterparty's expected returns do not justify the cost of providing safeguards, safeguards will be absent or insufficient—leaving the supplier's specific investment exposed to risk and further discouraging investment commitment. Taking together, under-investment relative to the Efficient RAS is therefore a theoretically predictable direction of distortion.

Yet under-investment is not the only observed pattern. If the non-redeployability of specific assets discourages commitment, it is not immediately clear from the theoretical framework why suppliers would ever invest beyond the Efficient RAS. The empirical

analysis that follows examines the specific mechanisms through which both directions of distortion arise—including over-investment, whose occurrence is not immediately apparent from the theoretical reasoning above. Based on the observed patterns of investment distortion, the analysis then examine how it can further threat the stability of the arrangement, and why these unstable arrangements persist, the sequential diagnostic are as follow:

> **Step 1.** Identify the observed organisational arrangement (comprising the governance structure and its safeguard design), and the supplier's level of specific assets, then assess its alignment along three dimensions:
>
> (a) whether the observed AS level corresponds to the Efficient RAS; (b) whether the observed governance structure corresponds to that predicted by the discriminating alignment hypothesis given the observed AS level; and (c) whether the strength of observed safeguard design is commensurate with the level of asset specificity at stake. Misalignment on any of these dimensions constitutes a diagnostic finding.
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> **Step 2.** Where misalignment is identified on one or more dimensions: examine what gives rise to it, and what sustains the arrangement despite the misalignment.
>
> **Step 3.** Where the observed arrangement appears aligned on all three dimensions: assess whether it is stable, and if not, what threatens its stability.

4 Methodology

This study employs a qualitative approach to investigate how alternative organisational arrangements are designed and chosen for cross-border distribution. The empirical work proceeded in two phases: semi-structured interviews with practitioners in China's export industry, followed by in-depth comparative analysis of six selected cases, consistent with the comparative institutional logic of the analytical framework (Williamson, 1991)[(É. Brousseau & Glachant, 2008, ch. 5)]

The semi-structured interviews were conducted in three successive rounds between June and November 2025, each informed by the analysis of the preceding round. Interviewees were recruited through snowball sampling, starting from initial contacts accessible to the researcher, with subsequent referrals sought across different firm types and roles to enhance sample diversity. In total, 24 individuals participated in 29 interviews. Interviewees comprised 21 export firm practitioners, 2 marketing agency professionals, and 1 senior e-commerce platform employee.

The first round (12 interviewees) was broadly scoped to explore key dimensions shaping how firms organise their export operations, with no restrictions on product type or

interviewee seniority. Analysis of first-round data led to two refinements: the sample was narrowed to firms dealing in general consumer goods to ensure comparability.

The second round (9 interviewees) targeted management-level practitioners, with recruitment designed to balance different types of suppliers. Building on the suppliers types identified in the first round, interviews focused on why different types of suppliers adopt particular export arrangements.

The third round (8 interviewees) served a verification function, with interviewees selected for their potential to challenge interim conclusions. As the empirical counterparts of the key theoretical dimensions had become increasingly identifiable through prior rounds, the third-round interviews were able to address more specific topics, including the investments and resources practitioners commit to different export arrangements and the corresponding contractual designs. Several third-round interviewees had participated in earlier rounds, which enabled detailed follow-up on contractual specifics.

The cumulative data collected across all three rounds—particularly regarding the investments,contractual terms and the stability of the arrangements associated with different export arrangements—provided the basis for the subsequent in-depth analysis of six selected cases. Table 1 summarises interviewee profiles and the scope, purpose, and sampling criteria of each round.

Following the completion of all three interview rounds, six cases were selected from the broader interview data for in-depth comparative analysis. The selection was guided by two criteria. First, the cases were chosen to cover four distribution channels—contract manufacturing, brand distribution, CBEC platform sales, and direct-to-consumer via company-owned websites—capturing a variety of organisational arrangements and, correspondingly, different diagnostic paths through the analytical framework developed in Section 3. Each firm operates a primary export channel but also engages in at least one additional channel, enabling within-case comparison of organisational arrangements across different levels of forward integration. Second, the selected cases were required to support robust within-case analysis: each case draws on multiple informants, and three of the six firms are current or former industry leaders for whom corroborating public information—including media coverage and industry reports—is available. Table 2 provides an overview of each case.

Within each case, the analysis operationalises the framework's constructs as follows:

First, the governance structure and safeguard design of each distribution arrangement are identified from interviewees' accounts of their export modes, contractual terms, and the nature of the relationship with their transaction counterparties. For platform-based arrangements, publicly available seller agreements are also consulted to supplement interviewee accounts. Specific contractual provisions are coded as indicators of safeguard type: for instance, where an interviewee reports that the contract stipulates a non-refundable deposit, this is coded as a monetary safeguard.

Table 1: Interviewee Information

No.	Phase	Role	Seniority	Firm Size	Duration
1	1	Export practitioner	Staff	500–1000	75
2	1	Export practitioner	Staff	<100	60
3	1	Key informant (Marketing Agency)	Staff	/	60
4	1	Export practitioner	Staff	500–1000	60
5	1	Export practitioner	Staff	500–1000	60
6	1	Export practitioner	Staff	>10,000	120
7	1	Export practitioner	Middle mgmt.	>10,000	60
8	1,3	Export practitioner	Top mgmt.	<100	240
9	1	Export practitioner	Top mgmt.	<100	60
10	1	Export practitioner	Top mgmt.	1000–1500	60
11	1	Export practitioner	Middle mgmt.	<100	60
12	1	Key informant (Digital platform)	Middle mgmt.	/	60
13	2	Export practitioner	Top mgmt.	100–500	90
14	2,3	Export practitioner	Middle mgmt.	<100	135
15	2	Export practitioner	Top mgmt.	<100	90
16	2	Export practitioner	Top mgmt.	<100	75
17	2	Export practitioner	Middle mgmt.	500–1000	75
18	2	Export practitioner	Top mgmt.	100–500	90
19	2	Export practitioner	Middle mgmt.	500–1000	75
20	2	Export practitioner	Middle mgmt.	1000–1500	60
21	2	Export practitioner	Top mgmt.	100–500	75
22	3	Export practitioner	Top mgmt.	500–1000	60
23	3	Key informant (Advertising Agency)	Middle mgmt.	/	90
24	3	Export practitioner	Top mgmt.	1000–2000	60

Note: Firm size refers to the number of employees at the firm primarily discussed by the interviewee. Duration is in minutes.

Table 2: Case Overview

Case	Product Category	Firm Size	Domestic Market	No. of OAs	Status
1	Kitchen appliances	1300	Yes (primary)	3	Active
2	Automotive components	300	No	3	Active
3	Kitchen appliances	1500	Yes (primary)	5 (2 discontinued)	Active
4	Cosmetics	1000	Yes (primary)	3	Active
5	Home Décor	100	No	2	Active
6	Consumer Electronics	1000 (at peak)	No	1	Active

Second, the type and level of specific assets are assessed through a two-stage procedure. In the first stage, drawing on findings from the broader interview phase—particularly insights that emerged across multiple informants—the investments typically required for participation in each distribution channel are identified, along with their types (e.g., platform-specific operational team, brand-building expenditure, logistics infrastructure, overseas market specific inventory input). Two channel-level benchmarks are established at this stage. The first—the minimum investment without which participation in a given channel would not be feasible—corresponds to the fixed-cost threshold central to the productivity-sorting literature. The second—the investment level at which the channel can be operated effectively—has no direct counterpart in that framework, which does not distinguishes between entry and efficient operation. Whether either threshold also constitutes an asset-specific commitment is a supplier-level judgement reserved for the second stage.

In the second stage, within each of the six selected cases, the supplier's actual investments are assessed against these benchmarks. Crucially, whether a given investment constitutes an asset-specific commitment depends on its redeployability for the individual supplier: an investment that is general-purpose for one firm—because it can be redeployed to alternative uses—may constitute a specific assets for another whose operations offer no such alternative. This assessment is made on the basis of each interviewee's account of the investment's alternative uses, or lack thereof. Where the channel-level benchmarks are confirmed as specific to the supplier—that is, where the investments in question can-

not be redeployed without significant loss of value—they correspond to the Minimum Participation RAS and the Efficient RAS as defined in the analytical framework. Deviations of observed investment above or below the Efficient RAS are identified as potential over-investment or under-investment, respectively; where the observed investment falls between the Minimum Participation RAS and the Efficient RAS, this is noted as a case in which the supplier has committed enough to enter the channel but not enough to operate within it efficiently.

5 Results

5.1 Organisational Arrangements in Cross-Border Distribution

This section reports findings in two parts. The first characterises the required asset specificity profiles and organisational arrangements observed across four cross-border distribution channels. The second (Section 5.2) examines the sources and consequences of the investment distortions and governance misalignments identified therein.

Traditional Distribution Arrangements

Contract Manufacturing. Traditional cross-border distribution encompasses a range of contractual forms, differentiated by the type and level of specific asset required of the supplier in the distributional channel. At one end of the spectrum lies contract manufacturing, in which the counterparty may be any type of order-placing commercial intermediary and the supplier performs only the production function without participating in distribution. Under this arrangement, product suppliers do not participate in distribution and incur no distribution-related fixed costs. In the absence of such investment, the question of asset specificity does not arise: both the Minimum Participation RAS and the Efficient RAS are negligible. The discriminating alignment framework accordingly predicts market governance with no need for safeguard mechanisms. Case 1, Case 2 and Case 3 corroborate this prediction: interviewees described transactions conducted on a standard purchase-order basis, and the arrangement has proven durable, yet in Cases 1 and 3 interviewees also report they are actively seeking alternative arrangements.

As the bilateral relationship stabilises and transaction volume increases, the Minimum Participation RAS remains low, but the Efficient RAS rises. The interviewee in Case 3 reported that, to improve communication efficiency and facilitate more effective transactions, the firm established a sales team (human asset) serving specific clients exclusively. The counterparty reciprocated by assigning dedicated personnel. This constitutes a bilateral arrangement with credible safeguards, and has also proven durable.

The investment distortion observed in contract manufacturing, however, does not arise from the human asset dimension described above. Rather, it stems from the supplier's

autonomous investment in specialised dies (physical asset specificity) and a dedicated production line (dedicated asset specificity). Although these assets take a production form, they are tied to specific transaction counterparties and serve a distribution-facing function; the sources of this investment are examined in Section 5.2. These investments exceed the Efficient RAS of the transaction and are not matched by corresponding safeguards within the existing arrangement; the transaction continues to operate under market governance, leaving the supplier unilaterally locked in. Interviewees reported that, despite the arrangement having operated over an extended period, they were actively exploring the possibility of transitioning to alternative governance arrangements.

Brand Distribution. Moving along the spectrum, Brand Distribution arrangements require a different investment profile. Beyond the human-asset investments observed in contract manufacturing—which apply here as well—Brand Distribution introduces a distinct category of fixed-cost investment: brand name capital in the host country market. Unlike domestic brand investment, which can be leveraged across multiple channels and customer segments, brand capital built in a specific host country market has limited redeployability—it cannot be transferred to other country markets without substantial loss of value, and thus constitutes an specific asset for the investing supplier.

Under this arrangement, suppliers engage more actively in distributional activities, and their contractual interactions with counterparties—wholesalers and retailers—are more diverse. The nature of intermediation varies with the attributes of transactions. When transactions are occasional, the minimum brand name investment required for channel participation remains low: the branded products are distributed in a non-branding manner, and no brand-related externalities arise. However, the Efficient RAS for brand name investment is considerably higher—achieving branded distribution as intended requires a level of brand name investment in the host country that substantially exceeds this minimum threshold.

Across the cases operating under brand distribution arrangements, the data reveal a consistent pattern of under-investment: the observed level of brand name investment falls below the Efficient RAS. This pattern is notably more pronounced for brand name capital than for other types of specific investment. In Cases 3 and 4, despite the presence of investment distortion, the observed governance structure corresponds to the theoretical prediction (market or bilteral). These arrangements operate stably, yet the volume of transactions conducted through them remains limited—a constraint consistent with the sub-efficient level of brand name investment, which both restricts the supplier's capacity to attract higher-quality counterparties and limits counterparties' willingness to transact at greater frequency or quantity. The sources of this under-investment pattern are examined in Section 5.2.

Digital Distribution Arrangements

With the development of ICT over the past two decades, digital-based distribution has emerged as a significant alternative arrangement in cross-border trade, with e-commerce platforms serving as the dominant intermediaries. These digital arrangements—encompassing both platform-mediated cross-border e-commerce (CBEC) and direct-to-consumer, company-owned website (D2C) channels—share a similar asset specificity profile. They are therefore examined together, with differences noted where they arise.

Under digital distribution arrangements, the suppliers internalise distribution functions that were previously performed by commercial intermediaries (Betancourt & Gautschi, 1988; Spulber, 1996). As a consequence, the transaction-specific inputs associated with those functions must now be deployed by the suppliers themselves.

Cross-case evidence indicates that this raises the Minimum Participation RAS relative to traditional arrangements. Suppliers must maintain a minimum level of inventory (a physical, transaction-specific input) and a corresponding logistics and warehousing capability (dedicated asset specificity); without these, the transaction cannot be fulfilled—whereas under traditional arrangements, these functions are borne by commercial intermediaries. These requirements apply to both CBEC and D2C arrangements. For D2C arrangements specifically, the establishment of a company-owned website constitutes an additional dedicated asset without which the channel cannot operate. The decision at this threshold is binary: either commit the required minimum inputs and participate, or forego the channel entirely.

Beyond the Minimum Participation RAS, suppliers face a further decision regarding whether to raise their investment to the Efficient RAS level. At this stage, two additional categories of asset specificity become salient: a dedicated CBEC operational team (human asset specificity) and brand name investment in the host country market. Advertising input is transaction-specific under both CBEC and D2C arrangements, as it serves specific overseas markets only; however, under CBEC it takes a platform-specific form with particularly limited spillover to other channels, rendering it even more narrowly appropriable to the focal platform transaction.

Across these investment categories, the cross-case evidence reveals an asymmetric pattern of distortion. Inventory is the notable exception: over-investment relative to the Efficient RAS is frequently observed. All other investment categories—human assets, brand name capital, and advertising—exhibit a consistent pattern of under-investment, with observed levels falling below the Efficient RAS. This pattern holds across both CBEC and D2C arrangements.

The specific investment profiles, however, vary across cases. Where the cross-border digital arrangement constitutes a supplier's primary distribution channel, observed investment levels tend to approach the Efficient RAS (Cases 5 and 6). Where it functions

as an exploratory alternative to an existing arrangement, suppliers tend to invest beyond the Minimum Participation RAS but stop short of the Efficient RAS (Cases 1, 3, and 4), with varying degrees of investment distortion present in these cases. The sources of these divergent investment patterns are examined in Section 5.2.

Turning to governance structure, a divergence emerges across digital distribution arrangements. Under CBEC, a clear misalignment is observed. The presence of transaction-specific investments would, under the discriminating alignment framework, predict bilateral governance between suppliers and platforms with corresponding safeguard mechanisms where transactions are recurrent, or trilateral governance with effective arbitration where transactions are occasional. In practice, however, the platform–seller relationship is notably uniform across all CBEC cases: the arrangement takes a market-like form based on standardised template contracts, with no effective third-party arbitration mechanism in place. This pattern contrasts with the contractual structures that some of these same firms have negotiated within domestic e-commerce, where bilateral arrangements with platforms and more prevalent safeguards are observed—as in Cases 3 and 4, where suppliers have established stable bilateral relationships with domestic platforms.

Under D2C arrangements, by contrast, the supplier assumes the full distributional function, and the observed governance structure—approximating unified governance—corresponds to the theoretical prediction. D2C and CBEC thus occupy different positions on the governance spectrum despite their broadly similar asset specificity profiles.

Current outcomes diverge substantially across cases. Under CBEC: Case 1 failed in its first attempt and is currently undertaking a second; Case 2 exited with a severe net loss; Cases 4 and 5 are operating stably; and Case 6 exited following bankruptcy. Notably, Cases 5 and 6 both invested at levels aligned with the Efficient RAS, yet their outcomes differ markedly—a divergence whose sources are examined in Section 5.2. Under D2C: Case 3 exited with a severe net loss; Case 4 is operating stably; and Case 5 was recently established, and its durability remains to be assessed.

5.2 Explaining Misalignment and Instability

Having characterised each identified cross-border distribution arrangement, diagnosed the investment distortions present within them, and evaluated the resulting governance structures against the predictions of the discriminating alignment hypothesis, a critical question remains: what gives rise to these distortions, what sustains the misaligned arrangements they produce, and what explains the instability of certain aligned ones. This section examines the mechanisms producing investment distortion, how misaligned arrangements persist despite their governance deficiencies, and why certain aligned arrangements nonetheless prove unstable.

Sources of Investment Distortion

The analysis distinguishes two directions of investment distortion—over-investment and under-investment relative to the Efficient RAS—each produced by a distinct mechanism rooted in bounded rationality.

Over-investment. Over-investment occurs when the observed level of specific asset exceeds the Efficient RAS—and, by extension, the Minimum Participation RAS—of the transaction. The mechanism producing this distortion is rooted in an asymmetry in the calculability of costs under bounded rationality: suppliers can estimate relatively easily the production cost savings generated by scale-expanding input—such as larger batch sizes in production and transportation—but are far less equipped to assess the governance cost exposure associated with the resulting specific asset when it is not matched by adequate safeguard mechanisms. The extent of this asymmetry varies across firms: production-oriented suppliers, whose core competence lies in manufacturing, tend to be less attuned to downstream governance risks than firms with prior distribution experience.

This asymmetry manifests in two empirical patterns. In Case 1, the supplier undertook autonomous investments in specialised assets—dedicated dies and production lines—that exceed what the transaction efficiently requires. Because the investment was initiated without adequate consideration of final demand price—which largely determines whether the buyer has an incentive to design safeguard mechanisms—the excess investment remains under-safeguarded. Consequently, a misaligned OA is observed: under the discriminating alignment framework, bilateral governance should have been in place; instead, these transactions continue to operate under market governance.

A parallel pattern is observed in inventory investment under digital distribution arrangements (Cases 3 and 4, in both CBEC and D2C). The same calculability asymmetry applies: excess inventory input is deployed, yet the governance cost exposure it generates is underestimated. Cross-border conditions further exacerbate this distortion through logistics batch-size indivisibility: the minimum efficient shipping unit for international freight is substantially larger than for domestic transactions, mechanically raising the inventory commitment per transaction cycle (Cases 1 and 2, CBEC and D2C operations). Under the D2C arrangement, because no intermediary is involved, the governance structure remains hierarchical despite the risk exposure. In contrast, under the CBEC arrangement, the platform provides no safeguard mechanisms, leaving the governance structure market-like and resulting in an OA misalignment.

Under-investment. Under-investment, defined as the observed level of specific asset falling between the Minimum Participation RAS and the Efficient RAS—sufficient to participate but insufficient to operate efficiently—is observed in the following patterns. Under Brand Distribution, brand name and human asset investments are under-invested

across all cases; in CBEC, apart from inventory, other specific asset are generally under-invested; and in D2C Case 4, all asset categories exhibit under-investment.

The mechanism producing under-investment is, like over-investment, rooted in bounded rationality—but operates in the opposite direction. Where over-investment stems from an overconfidence in calculable production cost savings, under-investment stems from an inability to compute ex ante whether the break-even point can be reached. Faced with this uncertainty, suppliers adopt a sequential commitment strategy: they invest above the Minimum Participation RAS to secure participation, but withhold further commitment until the returns from the arrangement become observable. This restraint is reinforced by the awareness that, should the arrangement fail, asset-specific input beyond the minimum threshold is difficult to recover.

Cross-border conditions amplify this restraint through three channels that jointly widen the gap between observed input levels and the Efficient RAS.

First, the required level of asset specificity is elevated. Informal barriers—including incumbent distribution networks and cultural distance—increase the demand for specialised human assets such as dedicated sales teams (Cases 3 and 4 under Brand Distribution arrangement). Physical distance reduces the redeployability of inventory, and limited channel diversification overseas narrows the scope for redeploying inventory across channels, raising the effective asset specificity of a given physical input even where the input itself has not changed (Cases 3 and 4 under CBEC arrangement; Case 4 under D2C arrangement).

Second, end customers' willingness to pay is reduced. Brand equity depreciates across borders, limiting the brand premium that suppliers can realise in host country markets and thereby lowering the expected return on brand name investment (Cases 3 and 4 under Brand Distribution arrangement, CBEC arrangement and D2C arrangement).

Third, governance options for suppliers with platforms and powerful commercial intermediaries are constrained. Smaller overseas transaction volumes limit suppliers' bargaining power, allowing platform-imposed market governance to persist even where asset specificity would theoretically warrant more safeguarded arrangements (all CBEC cases). Only suppliers with sufficient overseas scale can establish bilateral governance with platforms (absent in all cases).

Why Misaligned Arrangements Persist—and Why Aligned Ones May Not

Given the investment distortions identified above, misaligned OAs may nonetheless persist when suppliers' motivations for participation are strong enough to sustain them despite governance deficiencies. The analysis identifies four such motivations.

First, competition and commitment signalling. Under the contract manufacturing arrangement, suppliers face prolonged, intense price competition. Under these conditions,

the over-investments described above simultaneously function as commitment signals: the supplier seeks to form a bilateral commitment with its counterparty, thereby escaping price competition (Case 1)—though in practice this attempt did not succeed. Domestic overcapacity intensifies this dynamic: as excess capacity increases competitive pressure, suppliers are compelled to signal commitment through ever-higher specific asset, widening the gap between the observed investment level and what the existing OA can support.

Second, residual profit claims. Manufacturers initiate forward integration into distribution to capture downstream margins that would otherwise accrue to commercial intermediaries. This motivation is particularly salient in digital distribution arrangements, where the platform model enables suppliers to sell directly to end consumers (Cases 1 and 3).

Third, externality avoidance and brand protection. Where brand name capital is sufficiently high, suppliers face the risk that independent distributors will free-ride on brand value (Lafontaine & Shaw, 2001; Williamson, 1985). Suppliers accordingly select either more forward-integrated arrangements or more reputable counterparties. However, brand name capital depreciates across borders, reducing the expected return on specific asset and leading to lower investment levels (Cases 2 and 4 across Brand Distribution, D2C, and CBEC arrangements), which in turn limits suppliers' ability to attract higher-quality counterparties.

Fourth, escaping prior lock-in. Suppliers enter alternative arrangements to escape prior lock-in situations. In Case 1, excess investment in dedicated production lines under contract manufacturing created a dependency—once the buyer ceased placing orders, the supplier would face severe overcapacity—that motivated entry into digital distribution channels as an exit option. In Case 6, before bankruptcy, the firm entered D2C to escape lock-in under the platform arrangement.

Conversely, even where the observed governance structure aligns with theoretical predictions, the arrangement may remain unstable when the motivations sustaining participation are not met. Where suppliers entered an arrangement primarily to capture residual profits (Motive 2) and that expectation is not realised, the incentive to sustain the arrangement erodes—as observed in Cases 1 and 3 under contract manufacturing, where suppliers actively sought alternative arrangements despite operating under governance structures consistent with the discriminating alignment prediction.

6 Discussion

6.1 The RAS Construct and Its Diagnostic Function

The central theoretical contribution of this paper is the Required Asset Specificity (RAS) construct, which distinguishes between Minimum Participation RAS—the baseline level

of transaction-specific input without which a supplier cannot participate in a given arrangement—and Efficient RAS—the level at which the transaction can be conducted efficiently.

This distinction addresses a gap that spans both formulations of the discriminating alignment framework. In the heuristic model, the level of asset specificity is treated as exogenously given and used to predict the efficient governance structure—the question of how much to invest in specific assets is not itself analysed. The main model of Riordan and Williamson (1985) relaxes this assumption by treating both the governance structure and the level of asset specificity as endogenous; however, the scenario in which governance is externally constrained—such that the asset specificity level is endogenous and its optimum can be derived for a given structure—was regarded as a theoretical possibility rather than a setting of practical significance. In addition, neither formulation distinguishes between a minimum threshold required for participation and an efficient level for ongoing operation. The empirical evidence reported in Section 5 demonstrates that this distinction is not merely theoretical. Under digital distribution arrangements, suppliers must maintain a minimum level of inventory, logistics capability, and—in the case of D2C—a proprietary website before they can transact at all. The decision at this threshold is binary: either commit the required minimum inputs and participate, or forego the channel entirely. Only beyond this threshold does the investment become continuous and discretionary.

This operational distinction enables more precise identification of investment distortion, and consequently, more differentiated diagnosis of organisational arrangement misalignment and instability. In the standard framework, investment distortion is typically assessed against a single efficient level. The RAS construct, by contrast, establishes two reference points, making it possible to distinguish between under-investment that falls below the Efficient RAS but remains above the Minimum Participation RAS—sufficient to participate but insufficient to operate efficiently—and over-investment that exceeds the Efficient RAS and generates governance exposure beyond what the existing arrangement can support.

The existing literature on incomplete contracts has devoted substantial attention to under-investment as a consequence of the holdup problem (Antras, 2003; Grossman & Hart, 1986)—a well-established mechanism in which the anticipation of ex post appropriation discourages ex ante specific investment. Over-investment, by contrast, has received comparatively little theoretical attention. The empirical evidence reported in this study suggests that this asymmetry in the literature does not reflect an asymmetry in practice. As reported in Section 5, both forms of distortion produce distinct patterns of misalignment: under-investment leads to arrangements that function but underperform, constraining transaction volume and counterparty quality (Cases 3 and 4 under Brand Distribution), while over-investment creates unilateral lock-in under insufficiently safe-

guarded governance structures (Case 1 under contract manufacturing; Cases 3 and 4 in inventory under CBEC). Without the RAS distinction, these divergent patterns would be collapsed into a single category of misalignment, obscuring the different mechanisms that produce and sustain them.

RAS also clarifies that an aligned arrangement is not necessarily a profitable one–thus not stable in the long run. The Minimum Participation RAS—or the Efficient RAS—may exceed the break-even point from the supplier's perspective; that is, the final demand price cannot support the required specific investment. In such cases, even when the governance structure corresponds to the theoretical prediction, the arrangement remains economically unviable. Cases 1 and 3 under digital distribution illustrate this divergence: both firms invested at or above the minimum efficient level, yet both attempts failed with substantial net losses—not because of governance misalignment, but because the underlying transaction could not generate sufficient returns to cover the required specific asset.

The empirical evidence further reveals that both asset specificity and required asset specificity exhibit a contextual relativity. This relativity manifests along two dimensions.

First, the level of required asset specificity varies across investing parties within the same arrangement. Commercial intermediaries can reduce transaction costs and lower the effective level of asset specificity they face (E. Brousseau et al., 2002), while simultaneously generating economies of scope consistent with the productivity-sorting literature (Akerman, 2018). When product suppliers forward-integrate, they forgo both advantages and face a higher RAS. The empirical evidence confirms this: across all cases, suppliers conducting cross-border distribution for the first time face substantially higher RAS than do intermediaries with established operations in the same market. Significant heterogeneity also persists among suppliers themselves—those who have developed distribution capabilities through sustained channel participation face lower RAS than newcomers to the same channel. This variation, moderated by firm type and prior investment history (Bernard et al., 2011), implies that a complete characterisation of transaction attributes requires reference to firm-level conditions that shape the redeployability of the investments underpinning the transaction.

Second, the levels of asset specificity and RAS differ markedly between cross-border and domestic conditions, with the former exhibiting systematically higher levels. As documented in Section 5.2, cross-border conditions elevate the required asset specificity through informal barriers, physical distance, and reduced channel diversification, while simultaneously depressing expected returns through brand equity depreciation. This joint effect widens the gap between what the arrangement requires and what it can sustain.

6.2 Governance Constraints in Intermediary-Mediated Distribution

The preceding analysis focused on the investment side of the transaction—how product suppliers' bounded rationality produces distortions relative to the Efficient RAS. A complementary source of misalignment, however, lies on the counterparty side. A useful distinction here is between *ex ante* transaction costs—the costs of search, matching, and establishing a transactional relationship—and *ex post* transaction costs—the costs of safeguarding specific assets, monitoring performance, and adapting to disturbances once the relationship is in place. This distinction parallels, at the governance level, the separation of fixed costs from asset specificity drawn at the investment level in Section 2: just as a reduction in the fixed costs of market entry does not eliminate the governance consequences of specific investment, a reduction in search friction does not eliminate the transactional hazards that arise once specific assets are committed. The two categories of intermediary arrangements examined in this study—commercial intermediaries and digital platforms—differ in their capacity to address these two cost dimensions, with consequences that the following paragraphs develop in turn.

In addition, across both traditional and digital distribution arrangements, the observed governance structures consistently favour the intermediary side of the transaction. This pattern reflects an asymmetric power structure between product suppliers and their distribution counterparties: the underlying condition, documented across the majority of cases, is an asymmetry between production capacity and distribution capability—suppliers typically face overcapacity in production while lacking the capabilities required for overseas distribution, placing them in a structurally weak bargaining position. This finding is consistent with Gereffi et al.'s (2005) observation that suppliers with limited capabilities are susceptible to capture by lead firms in the value chain, who dictate the terms of governance. Cross-border conditions amplify this asymmetry. Cultural distance reduces the fit between products and overseas markets, while established local business networks impede foreign suppliers' access to distribution channels (Rauch & Trindade, 2002). The resulting dependence on available intermediaries further compresses suppliers' governance options.

This governance constraint is particularly acute under digital platform arrangements. As operators of multi-sided markets (Hagiu & Wright, 2015; Rochet & Tirole, 2003), platforms must solve the initial coordination problem of attracting both sides simultaneously (Caillaud & Jullien, 2003). Once this problem is resolved, the platform's optimal pricing structure—subsidising the more price-elastic buyer side while extracting surplus from the seller side (Rochet & Tirole, 2006)—systematically disadvantages suppliers' bargaining position. The resulting standardised contractual terms reflect the structural requirements of serving multiple seller groups simultaneously, leaving little scope for bilateral

negotiation of safeguards tailored to individual suppliers' asset exposure. Cross-border e-commerce platforms substantially reduce pre-transactional search friction (Bakos, 1997; Brynjolfsson & Smith, 2000), yet the governance structures they impose leave suppliers' asset-specific investments largely unsafeguarded, with three specific consequences for suppliers' specific assets. First, human asset investments are asymmetrically committed: under traditional bilateral arrangements, both parties dedicate comparable personnel to the relationship, creating mutual dependence; under platform arrangements, suppliers maintain dedicated operational teams while the platform assigns a single representative to service hundreds of sellers. Second, brand name capital invested through platform advertising accrues primarily to the platform's ecosystem rather than to the supplier's brand—spillover to other channels is minimal, rendering the investment narrowly appropriable to the focal platform transaction. Third, the data generated by suppliers' advertising expenditure—which constitutes a reusable asset—remains under the platform's proprietary control, creating an additional layer of dependence that is not matched by any corresponding safeguard.

Ménard (2004) has argued that hybrid arrangements possess governance properties that are distinct from both markets and hierarchies—particularly with respect to coordination mechanisms, dispute resolution, and the design of safeguards to protect mutually dependent investments. The platform-mediated arrangements examined in this study exhibit precisely this intermediate character, yet the governance mechanisms they deploy are markedly less developed than what Ménard's framework would predict for the level of asset specificity involved. The contrast between CBEC platform arrangements and D2C arrangements is instructive in this regard: despite sharing broadly similar asset specificity profiles, the two channels produce divergent governance outcomes—standardised market-like terms under CBEC versus unified governance under D2C. This divergence, arising from channel structures that are otherwise comparable, provides a potentially productive setting for further investigation into how hybrid governance mechanisms operate—and fail to operate—in platform-mediated distribution.

6.3 Limitations and Future Research

Several limitations should be noted. First, the study draws on a sample of Chinese export firms, primarily in general consumer goods, which may limit the generalisability of the specific RAS thresholds and investment patterns identified. However, the underlying mechanisms are not context-specific and should apply wherever governance options are constrained and investment thresholds are imposed by transaction structures.

Second, the qualitative design enables the identification and characterisation of mechanisms but does not permit quantification of RAS thresholds or the magnitude of investment distortions. This challenge is compounded by the relative nature of asset speci-

ficity documented in this study: since the degree of specificity associated with a given investment varies across contexts, meaningful quantification would require not absolute measures but firm- and transaction-relative benchmarks—a non-trivial operationalisation task. Future research could nonetheless explore proxy measures for RAS across a larger sample of firms.

Third, while the retrospective accounts collected through interviews capture the trajectory of arrangement transitions—enabling the analysis to trace how firms moved between governance structures over time—the study does not track these processes in real time. A longitudinal design would enable more precise identification of the dynamic processes through which misaligned arrangements either stabilise or dissolve.

Fourth, although the sample includes informants beyond suppliers—including platform employees and other knowledgeable practitioners—the analytical framework and theoretical focus remain centred on the supplier's governance decisions. Future research that systematically incorporates the perspective of platforms, commercial intermediaries, and overseas buyers would enrich the analysis of cross-border distribution arrangements.

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