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Abstract

Geopolitical conflicts, particularly economic ones, introduce significant uncertainties into the global supply chain. The impact of these conflicts on cross-border buyer–supplier transactions remains underexplored, as does the capability of global suppliers to mitigate such risks by locking in their foreign buyers. Employing a combined perspective of resource dependence theory and transaction cost economics, we examine a natural experiment to investigate the effects of the 2018 U.S.–China trade war on the transactional relationships between Chinese suppliers and their U.S. buyers. Our study reveals that the trade war generally adversely affected these buyer–supplier transactional relationships, leading to a negative abnormal transaction value in the affected dyads, which amounted to 18.42% of their pre-event level. However, we find that this adverse impact can be attenuated when Chinese suppliers demonstrate superior innovation capabilities, higher corporate social responsibility performance, or fewer local political ties. These findings yield insights for international suppliers and buyers on strategies to maintain buyer–supplier transactions and minimize the detrimental effects on global supply chain relationships during geopolitical conflicts.

KEYWORDS

cross-border buyer–supplier relationship, event study, geopolitical, lock-in, trade war

Highlights

- The U.S.–China trade war slashed transactions between sampled U.S. buyers and Chinese suppliers by 18.42%.
- Innovative and socially responsible Chinese suppliers showed more resilient, effectively retaining U.S. buyers amid the trade war.
- U.S. buyers distanced themselves from Chinese suppliers with local political ties to navigate geopolitical uncertainties.

1 | INTRODUCTION

In the early 21st century, the blossoming of international trade, fueled by trade liberalization, has created a low-tariff and stable international trade environment (Pierce & Schott, 2016). This decrease in trade barriers has enabled buyers to access low-cost production and unique resources globally (Levy, 2005), enhancing their product quality, scope, and value (Fan et al., 2015; Fan, Luong, et al., 2022). Concurrently, trade liberalization has allowed suppliers to tap into global markets, generating substantial revenue and securing resources for technological upgrades (Bustos, 2011). This has laid a fertile foundation for the development of cross-border buyer–supplier relationships (BSRs), particularly between buyers from developed countries and suppliers from emerging markets. For instance, the United States (U.S.) imports from China surged to USD 505 billion in 2017, an about fivefold increase from the USD 102 billion in 2001, the year China joined the World Trade Organization (Sabanoglu, 2023).

This increase in international trade has drawn the attention of operations management (OM) scholars to the intricacies of cross-border BSRs (Carter, 2000). Managing these relationships is notably complex due to geographical distance (Kaufmann & Carter, 2006), cultural differences (Ribbink & Grimm, 2014), and varying institutional environments (Ho et al., 2018). Researchers in this area have focused on both formal (e.g., contracts) and informal (e.g., trust) mechanisms to sustain effective and long-term oriented cross-border BSRs (Cannon et al., 2010; Li et al., 2010).

Most supply chain management literature from the 2000s and 2010s has been based on the assumption of a low-tariff and stable environment (Dong & Kouvelis, 2020). However, cross-border BSRs are now facing new challenges due to escalating geopolitical conflicts between major economies (Moradlou et al., 2021). Many of these conflicts stem from anti-globalization economic policies, such as the "America First" approach, which have prompted a trend toward reshoring and a consequent scaling back in cross-border BSRs. Despite the growing severity and frequency of such exogenous shocks (Witt, 2019), there is still a limited understanding within the existing literature about their impacts on BSRs (Fan, Zhou, et al., 2022). Consequently, there is a pressing need for research insights that can provide both managerial and policy guidance to anticipate and mitigate these negative impacts.

Our study aims to address this research gap by investigating the impact of economic geopolitical conflicts on cross-border buyer–supplier transactions, which is an indication of BSRs. We also focus specifically on the attributes of international suppliers that enable them to maintain their cross-border buyer–supplier transactions during such conflicts. The trade conflict between the U.S. and China that started in 2018, involving two of the world's largest trading partners, provides a particularly fertile ground and a natural experimentation opportunity for this research. The tariffs imposed in this trade war, affecting a vast range of industries and accounting for 3.6% of U.S. GDP, has not only caused direct disruptions but also generated significant long-term uncertainties in the global supply chain (Fajgelbaum & Khandelwal, 2022; Fan, Zhou, et al., 2022; Handley & Limão, 2022). Despite its wide-scale and long-term impacts, comprehensive evidence of the trade war's impact on buyer–supplier transactions remains scarce.

As tariffs loomed, some U.S. buyers reduced transactions with Chinese suppliers by relocating or reshoring (Jennings, 2019). However, this response was not uniform. Notably, certain U.S. buyers appeared "locked-in" (Narasimhan et al., 2009) by their Chinese suppliers and had to maintain their transaction scale despite the conflict (He, 2019). A locked-in buyer shows its heavy dependence on specific suppliers, exemplified by the buyer's challenges in identifying and transitioning to alternative suppliers in the face of geopolitical conflicts (Narasimhan et al., 2009; Schmitz et al., 2016). This paradox leads us to ask the first research question (**RQ1**): *To what extent does the U.S.–China trade war affect the transaction value between Chinese suppliers and U.S. buyers?* Suppliers, unlike buyers, are generally difficult to relocate or reshore their operations. Thus, understanding the capability of suppliers to lock in overseas buyers for resiliency and transformability amid a geopolitically uncertain environment is of crucial strategic importance. This leads to our second research question (**RQ2**): *What specific features enable Chinese suppliers to lock in their U.S. buyers during the trade war?*

Adopting an integrated theoretical perspective from resource dependence theory (RDT) and transaction cost economics (TCE), we conceptualize the trade war as a significant disruption in essential resource flows within BSRs (Casciaro & Piskorski, 2005; Darby et al., 2020), leading to increased transaction costs in terms of trade costs and risks (Fan, Zhou, et al., 2022; Handley & Limão, 2022). To test our hypotheses, we employed matched samples of buyer–supplier dyads in a long-horizon event study. The treatment group comprised 343 dyads of listed Chinese suppliers and their U.S. buyers affected by the tariff increase, while the control group was matched with suppliers unaffected by the trade war. Our analysis revealed a significant negative abnormal transaction value for the treated dyads, amounting to 18.42% of their pre-event level. We also

observed that the negative impact was mitigated when Chinese suppliers possessed superior innovation capability, demonstrated higher corporate social responsibility (CSR) performance, or had fewer local political ties.

This research makes significant contributions to the OM literature on cross-border BSRs (e.g., Carter, 2000), particularly by shedding light on the influence of geopolitics or a new era of geopolitical tensions that become more prevalent and contentious. Our findings demonstrate the detrimental impact of geopolitical conflicts on BSRs in the context of the recent U.S.–China trade war, thus underscoring geopolitics as a new and an important dimension to the BSR dissolution literature, as it has typically not been focused in the studies on the influence of exogenous factors (e.g., Chen et al., 2013). Additionally, this study extends the geopolitics focus to suppliers' geopolitical resilience. Our exploration of the capabilities that enable suppliers to maintain transactions with overseas buyers amid such conflicts contributes to the understanding of the "lock-in" effect in BSRs (e.g., Narasimhan et al., 2009) as well as highlights how suppliers can capitalize on those capabilities for global supply chain resilience from a supplier's perspective.

Furthermore, our study intersects with the OM literature on public policy by connecting the conversations regarding the effects of tariff policies from a unique perspective of buyer–supplier dyads with the effects of political ties from an OM perspective. This complements existing research on trade liberalization but also extends its scope to include the implications of geopolitical conflicts in the era of global supply chains (e.g., Fajgelbaum et al., 2020). Finally, we discuss the implications for the integration of RDT and TCE (Jiang et al., 2023), international relations and business (Witt, 2019), as well as global supply chain management practices and policymaking.

2 | LITERATURE REVIEW

2.1 | Trade liberalization and cross-border BSR

Trade liberalization has been defined as the removal or reduction of trade barriers, such as tariffs (Baier & Bergstrand, 2007). Its impacts on firms have been a significant research focus in the literature of economics, international business (IB), and OM. Economics researchers focus on discussing how the tariff reduction affects importers in terms of increasing product quality (Fan et al., 2015), expanding product scope (Fan, Luong, et al., 2022), facilitating offshoring (Pierce & Schott, 2016), and maintaining firm cross-border buyer–supplier transactions (Monarch, 2022). IB researchers, meanwhile, focus on how tariff reduction changes the cross-border competitive environment landscape faced by the firms in affected countries (e.g., Baggs & Brander, 2006; Flammer, 2015; Seyoum, 2007). They also discuss how multinational enterprises can make use of global resources to enhance firm competitive advantage in a liberalized trade environment (e.g., Kotabe & Murray, 2004; Lewin et al., 2009).

OM scholars in global supply chain management also substantially discuss the management of cross-border BSRs across a stable and low-tariff environment and in a liberalized trade environment (Dong & Kouvelis, 2020). Cross-border BSRs are embedded in an international context where economic, institutional, and cultural differences lead to greater volatility, uncertainty, complexity, and ambiguity (Kaufmann & Carter, 2006). As a result, international BSRs are exposed to additional risks and require substantial efforts to manage (Choi & Krause, 2006). Previous researchers have focused on the relational and operational factors contributing to these challenges, including ethical issues (Carter, 2000), cultural distance (Kaufmann & Carter, 2006), governance mechanisms (Li et al., 2010), and trust (Rungsithong & Meyer, 2020). However, much less is understood about the influences of exogenous events on cross-border BSRs, especially transactions. In particular, although geopolitical conflicts continue to exert major impacts on international trade (Cheng & Chiu, 2018; Duanmu, 2014), they have been largely ignored in supply chain management studies (Fan, Zhou, et al., 2022). In line with the literature on BSR dissolution (e.g., Chen et al., 2013), we thus enter the discourse on how geopolitical conflicts may cause a scaling back, or even dissolution in the cross-border buyer–supplier transactions.

2.2 | Geopolitical conflicts in the era of global supply chain

Deglobalization, defined as a trend toward less economic exchange across borders, is a reaction to globalization and its associated liberal economic policies (Witt et al., 2023). This movement is fueled by rising geopolitical risks, particularly in the late 2010s and early 2020s, and is often driven by major economic powers responding to each other's economic and military developments (Witt, 2019; Witt et al., 2021). Economists are starting to focus on the impact of the recent return to protectionism (Fajgelbaum et al., 2020) and trade deliberalization (Blank et al., 2022). In OM, geopolitical events have been shown to cause significant disruptions (Fan, Zhou, et al., 2022), prompting firms to adapt via strategies, such as building buffer inventory (Darby et al., 2020),

conducting vertical integration (Fan & Xiao, 2023), enhancing collaboration (Azadegan & Dooley, 2021), reducing innovation investment (Chen et al., 2024). In addition, when trade barriers are weaponized to protect domestic industries, buyers may need to recalculate the risks of an offshoring strategy, leading to adjustment, reconfiguration, or even abandonment of their cross-border BSRs (Dong & Kouvelis, 2020).

Trade wars, particularly the recent U.S.–China conflict starting in 2018, stand out from other exogenous events due to their ability to obstruct resource flows at borders. The U.S.–China trade war is notable for being one of the most significant shifts in U.S. trade policy, contrasting sharply with the U.S.'s historical role in reducing tariffs globally (Fajgelbaum & Khandelwal, 2022). Its scale is more substantial than previous trade conflicts, such as the Smoot–Hawley tariffs in the 1930s, in terms of U.S. GDP affected (3.6% vs. 1.4%) and the proportion of products targeted by tariffs (67% vs. 27%) (Fajgelbaum et al., 2020). This conflict represents an unprecedented transformation and disruption in the globalized supply chain, affecting firms' operational costs globally (Fan, Zhou, et al., 2022) and their firm value (Huang et al., 2023; Rogers et al., 2024). In addition, the trade war signifies a major geopolitical conflict between the world's two largest economies, creating substantial uncertainty about future international trade environments (Handley & Limão, 2022).

Although the existing literature has started to explore the impact of geopolitical conflicts on global supply chains, a significant gap remains is how trade wars specifically affect cross-border buyer–supplier transactions. In addition, the strategies suppliers can employ to navigate these challenging times and secure their relationships with overseas buyers are not well understood. The U.S.–China trade war, marked by its unprecedented scale and the direct confrontation between the world's two largest economies, offers a unique opportunity to examine these dynamics. Our study aims to utilize this event not only to fill the existing gap in the literature but also to provide a nuanced understanding of how geopolitical conflicts influence cross-border buyer–supplier transactions. By doing so, we intend to enrich the discourse on the resilient measures firms can adopt to maintain cross-border transactions amid geopolitical conflicts.

2.3 | Theoretical foundation: An integration between RDT and TCE

In this study, we utilize RDT, complemented by TCE, as an integrated theoretical lens to understand how geopolitical conflicts can lead to a reduction in cross-border buyer–supplier transactions. Despite RDT and TCE has distinct focal points—RDT on power dynamics and dependency on external resources (Pfeffer & Salancik, 1978), and TCE on the optimization of transaction costs within varying governance structures (Williamson, 1985)—their combined perspectives offer a comprehensive theoretical foundation to understand the firm decisions undertaken in response to the trade war.

First, RDT provides a solid foundation for us to understand the roles of the three key parties in our research context, namely U.S. buyers, Chinese suppliers, and governments. The core assumption of RDT, which posits that firms are not self-sufficient and rely on external entities for essential resources (Handfield, 1993; Pfeffer & Salancik, 2003), underscores the risk inherent in environmental interdependence and the importance of managing interfirm relations to mitigate these risks (Hillman et al., 2009; Paulraj & Chen, 2007). In cross-border transactions, this interdependence is evident as buyers rely on suppliers for cost-efficient, high-quality inputs, while suppliers depend on buyers for market access. Stability in these relationships is maintained as long as the partners perceive the benefits of the current arrangement to outweigh the costs of switching to alternatives.

Within RDT's framework, governments are viewed as powerful entities that can significantly affect the resource flows between buyers and suppliers, representing a source of risk (Darby et al., 2020). Government policies may assert restriction to resource flows between transaction partners, compelling them to seek alternative sources or organizational arrangements (Casciaro & Piskorski, 2005; Hillman et al., 1999). Scholars of OM have used RDT to explore how political risks influence firm operations (Chae et al., 2019; Darby et al., 2020). In our context, tariffs during the trade war represent an external factor that disrupts resource flow in buyer–supplier transactions, making buyer-controlled resources (such as market access) harder to obtain and devaluing supplier-controlled resources (such as cost advantages).

Further integrating TCE into our analysis enhances our understanding of how trade wars, as disruptions to resource flow, escalate transaction costs, particularly for the U.S. buyers sourcing from China. Current OM literature suggests that trade wars have increased transaction costs for globally sourcing buyers (Fan, Zhou, et al., 2022). First, these conflicts introduce trade costs borne by both exporters and importers (Antras et al., 2017). Importers must negotiate with exporters on how to distribute these additional costs, which often leads to complex, zero-sum negotiations affecting profit margins and increasing transaction costs. In addition, geopolitical conflicts can create national animosity (Arikan & Shenkar, 2013), which erodes trust between

the buyer and supplier between the conflicting countries (Korovkin & Makarin, 2023).

Moreover, the geopolitical nature of trade wars distinguishes them from other types of supply chain disruptions, such as natural disasters or pandemics. Trade wars, indicative of ongoing geopolitical tensions between countries, such as the U.S. and China, are not isolated events but could recur or intensify (Handley & Limão, 2022). This ongoing uncertainty and risk further elevate transaction costs (Langlois, 2003a) and reduce transaction value by complicating predictions about partner behavior under negative future prospects (Foss & Foss, 2022).

As a result, buyers may find the increased transaction costs of continuing business with a specific supplier, when combined with the uncertainty introduced by the trade war, to outweigh the costs of seeking alternative suppliers. This evaluation process, emphasized by TCE, involves assessing whether the benefits of cross-border transactions are eroded to the extent that switching suppliers becomes a more attractive option.

Together, RDT and TCE offer a nuanced perspective on the dynamics of cross-border buyer–supplier transactions amid geopolitical conflicts. While RDT provides insight into the role and interdependence of buyer, supplier, and governments, TCE elucidates the economic rationale behind firms' decisions to reconfigure their supply chains in response to elevated transaction costs and uncertainties. By harnessing the complementary strengths of these theories, our study explores how the U.S.–China trade war influences the evaluation of cross-border transactions, leading to a reduction in these activities. Table 1 provides a summary of how the trade war and its impact are theorized within the integrated theoretical lens.

TABLE 1 Integration of RDT and TCE.

Focus	RDT's view	TCE's view	Integrating both views
Role of buyer and supplier	Firms are mutually interdependent, relying on external entities for essential resources (Pfeffer & Salancik, 2003)	Focuses on minimizing transaction costs within different governance structures (Coase, 1937; Williamson, 1985)	Recognizes the dynamics to BSRs affected by geopolitics and highlights the interactions between interdependence (RDT) and transaction costs (TCE) in the face of geopolitical conflicts
Role of government	Views governments as powerful third parties that can affect resource flow or introduce risks (Hillman & Hitt, 1999)	Considers how trade policies may increase transaction costs by introducing trade barriers and creating uncertainty (Dixit, 1998)	Integrates the view that government geopolitical policies can increase transaction costs (TCE), through disrupting resource flows and altering power dynamics (RDT), significantly affecting decisions on supply chain transactions and structures
Stability in buyer–supplier transaction	Stability is maintained through mutual dependence between suppliers and buyers such that cooptation through interorganizational arrangement is continued (Casciaro & Piskorski, 2005)	Evaluates the trade-off between increased transaction costs and the costs of switching to alternative suppliers (Monarch, 2022)	Stability is influenced by both the cost–benefit analysis of maintaining current relationships (RDT) and the costs associated with switching or restructuring transactions (TCE)
Conceptualization of the trade war	Trade wars disrupt the resource flow, affecting the availability and value of resources controlled by buyers and suppliers (Darby et al., 2020)	Trade wars introduce direct and indirect costs, erode trust, and elevate ongoing risks, thus increasing transaction costs (Fan, Zhou, et al., 2022)	Trade wars are seen as external shocks that disrupt resource flows between the US buyer and its Chinese supplier (RDT), increase transaction costs, and necessitate reevaluation of cross-border buyer–supplier transactions (TCE)
Trade war and buyer–supplier transactions	Buyers may seek alternative sources or arrangements to mitigate risks posed by restricted resource flows (Bode et al., 2011)	Buyers may reconfigure the supply chain to reduce transactions or switch suppliers, aiming at managing increased costs and risks caused by the trade war (Grover & Malhotra, 2003; Langlois, 2003b; Tomlin & Wang, 2010)	The integrated view emphasizes a strategic evaluation of buyer to maintain versus alter its Chinese supplier, taking into account both benefit from current dependency on the supplier resources and the need to manage transaction costs effectively

3 | HYPOTHESIS DEVELOPMENT

3.1 | Impacts of U.S.–China trade war on buyer–supplier transactions

The trade war between the U.S. and China has significantly undermined the cost advantages typically associated with international suppliers, especially due to the imposition of tariffs. As detailed by Fan, Zhou, et al. (2022), this geopolitical conflict has increased transaction costs, indicated by prolonged inventory days and undermined cost efficiencies, for U.S. firms sourcing from China. These impacts negate one of the primary benefits of maintaining cross-border buyer–supplier transactions: cost-reduction. This is particularly relevant because offshore outsourcing is often driven by cost considerations (Stevenson & Sum, 2014). Huang et al. (2023) found that this cost shock, if not well managed, can consequently undermine the firm value of the buyer. The reduced firm value implies lower return to capital and investment growth among the buyers (Amiti et al., 2020). In addition, the trade war introduces a significant layer of political risk into these transactions. Buyers amid political risks face difficulty in operational planning (Darby et al., 2020). This uncertainty exacerbates the transaction costs (Fan, Zhou, et al., 2022) as firms struggle to predict future trade policies and their impacts, thereby complicating sourcing decisions.

When the transaction costs, including both trade costs and the costs associated with managing risks (Grover & Malhotra, 2003), begin to outweigh the benefits of the existing cross-border buyer–supplier transactions, firms are more likely to reduce transactions with their current suppliers. This can involve switching to suppliers in other international locations that are not affected by the trade war tariffs or even reshoring operations to mitigate these costs and uncertainties. Consequently, this shift in strategy can lead to a reduction or even dissolution of the current international buyer–supplier transactions, as evidenced by a negative abnormal transaction value in the treated dyads compared with the control dyads. Therefore, the baseline hypothesis (H1) is as follows:

> **H1.** The 2018 U.S.–China trade war event had a negative impact on the buyer–supplier transaction value of the treated dyads (U.S. buyer and Chinese supplier).

3.2 | Lock-in factors amid the trade war

It is notable that the impact of adverse exogenous events, such as a trade war, on buyer–supplier transactions is not uniform across all affected buyer–supplier transactions. This variation can be attributed to differing levels of dependencies between firms in home and host countries (Jiang et al., 2023). From an RDT perspective, the interdependence in a cross-border BSR arises from the unique resources each party offers and the way these resources complement one another (Jiang et al., 2023; Xia et al., 2013). Such dependence is contingent on the substitutability of the assets and capabilities of the exchange partners, a concept known as partner substitutability (Xia, 2011). As such, RDT offers a particularly useful view to understand organizational behaviors for mitigating uncertainties arising from external shocks (Wry et al., 2013).

Concomitantly, scholars in TCE also introduced evolutionary dynamics in the TCE framework (e.g. Langlois, 2003b). Contextualizing the dynamic TCE logic with adapting dynamic capabilities (e.g. Teece et al., 1997) in our study, we posit that buyers aim to compensate the increased transaction costs under varying supply chain structures, making the relatively non-substitutable firm-specific capabilities and resources of foreign suppliers a critical factor in sustaining cross-border transactions amid trade wars (Lonsdale, 2001; Narasimhan et al., 2009). Therefore, a supplier with specific capabilities can enhance the benefits for its buyer, which may offset the increased transaction costs prompted by the trade war.

Previous literature highlights certain capabilities, such as innovation (Porter, 1985), CSR (Saeidi et al., 2015), and local political connections (Sheng et al., 2011), as key differentiators that enable a firm to seize and/or enhance competitive advantage. These capabilities can nurture unique resources for suppliers in terms of quality, social, and institutional advantages, thereby enhancing their bargaining power and increasing the buyer's dependence on them (Crook & Combs, 2007). In this study, we then investigate whether these sources of dependence remain as effective buffers against the increased transaction costs induced by the trade war and whether they enable Chinese suppliers to maintain their business with U.S. buyers during this period.

Supplier innovation capabilities can significantly boost the overall competitiveness of the supply chain and the end product quality (Cano-Kollmann et al., 2016; Kano et al., 2020). With the cost advantages of Chinese suppliers being compromised by the trade war, U.S. buyers may increasingly look toward differentiation as a means of maintaining market competitiveness. Chinese suppliers, armed with greater innovation capabilities, have the potential to revolutionize processes and introduce new products. This capability facilitates differentiation in terms of product quality, customizability,

and unique attributes (Branzei & Vertinsky, 2006; Lee et al., 2011). Suppliers that successfully leverage innovation to create a new competitive edge can offer distinctive and value-adding features in their production or supply processes, making them hard to imitate or replace (Terziovski, 2010). These arguments are also in line with the economic literature finding that the switching cost of U.S. buyers is high when they are sourcing from Chinese suppliers offering quality products (e.g., Monarch, 2022).

Therefore, based on the integrated perspectives of RDT and TCE, we posit that suppliers endowed with superior innovation capabilities can provide novel products and processes, reinforcing their indispensability to U.S. buyers by offsetting the elevated transaction costs and mitigating the risks associated with sourcing alternatives. This capacity for innovation becomes a pivotal resource, enhancing the supplier's bargaining position and the buyer's dependence on the supplier. Consequently, the buyer–supplier transaction is likely to sustain amid the trade war. This leads us to our hypothesis:

> **H2.** The negative impact of the 2018 U.S.–China trade war event on the buyer–supplier transaction value of the treated dyads (U.S. buyer and Chinese supplier) was attenuated by the Chinese suppliers' innovation capability.

In the context of geopolitical conflicts, such as the U.S.–China trade war, the role of CSR performance of supplier in sustaining cross-border buyer–supplier relationships become critically important. RDT views CSR performance as a vital resource that suppliers can leverage to enhance their social legitimacy and, by extension, their indispensability to buyers. Liu et al. (2021) and Ried et al. (2021) highlight that suppliers with strong CSR performance offer significant legitimacy benefits, positioning themselves as socially responsible partners in the global marketplace. In addition, suppliers with a superior CSR performance not only reduce the risk of spillover from CSR-related scandals but also contribute to a more socially and environmentally sustainable supply chain. This contribution, as revealed by Ried et al. (2021) and Tong et al. (2018), enhances the social acceptance of the entire supply chain. Thus, a supplier with high CSR performance becomes invaluable and hard to replace from a social legitimacy standpoint.

Moreover, integrating TCE, we observe that a supplier's strong CSR performance fosters trust and loyalty among customers, as noted by Homburg et al. (2013). Trust can help reduce transaction costs associated with monitoring, negotiating, and enforcing contracts, which is crucial in maintaining strong BSRs (Dyer & Chu, 2003). This trust, as argued by Narasimhan et al. (2009), can lead to a lock-in condition where strong mutual trust makes it less likely for the buyer–supplier transactions to degrade. Trust becomes even more pivotal during geopolitical conflicts, where quickly aroused and mobilized national animosity can erode the foundational trust between cross-border trading partners (Arikan & Shenkar, 2013; Korovkin & Makarin, 2023). In such contexts, well-performed CSR of the supplier serves not just as a marker of social legitimacy but as a strategic capability that mitigates the heightened transaction costs by preserving and enhancing trust between the buyer and the supplier.

In summary, from an RDT viewpoint, CSR enhances a supplier's irreplaceability by offering unique legitimacy resources, thereby increasing their value to buyers. Simultaneously, through a TCE viewpoint, CSR fosters trust and loyalty between trading partners, significantly mitigating transaction costs amid trade war. These understandings lead to the hypothesis:

> **H3.** The negative impact of the 2018 U.S.–China trade war event on the buyer–supplier transaction value of the treated dyads (U.S. buyer and Chinese supplier) was attenuated by the Chinese suppliers' CSR performance.

Previous RDT research suggests that political ties could provide benefits for organizational resource acquisition (Hillman et al., 2009; Sheng et al., 2011). Traditionally, political ties in emerging economies, such as China can be advantageous. Suppliers with such connections can access financial support, policy insights, and preferential treatments, which are valuable in environments where political actors significantly influence economic activities (Madhok & Keyhani, 2012; Shen et al., 2023; Wang et al., 2022).

However, the U.S.–China trade war represents a unique scenario where these political ties turn into a liability rather than an asset. During geopolitical conflict, national identity of the Chinese suppliers becomes particularly salient, and those with strong political affinity will be subject to strong scrutiny by stakeholders in the U.S. By taking the view of TCE into account, the political identity of suppliers, especially state-owned ones, introduces a heightened risk of resource flow disruption and transaction costs. This is due to the increased risk of these suppliers being targeted by the U.S. government and their actions in the midst of geopolitical turmoil, making transactions with them riskier and more uncertain. The ongoing geopolitical tensions between the U.S. and China elicit a wariness from U.S. buyers to

engage with suppliers with strong political ties (Yang & Nilsson, 2023). Such suppliers are perceived as less desirable due to the elevated political risks they bring to the table. This perception of increased transaction costs prompts U.S. buyers to reduce dependence on these suppliers, making the buyer–supplier transaction more vulnerable to scale-back. Thus, the hypothesis reads as follows:

> **H4.** The negative impact of the 2018 U.S.–-China trade war event on the buyer–supplier transaction value of the treated dyads (U.S. buyer and Chinese supplier) was amplified by the Chinese suppliers' local political ties.

4 | METHODS

4.1 | Study context

We examined the hypothesis based on the circumstances surrounding the 2018 U.S.–China trade war. In 2017, the U.S. imported USD 505 billion from China (25.58% of total imports), which was more than the sum of its North American Free Trade Agreement partners (Mexico: 10.63%, Canada: 11.73%). The U.S. trade deficit with China (USD 375.5 billion in 2017) prompted the Trump administration to increase tariffs on Chinese products in 2018.

In 2018, three trade action industry lists were released by the Office of the United States Trade Representative (USTR) with the official reasons that "laws, policies, practices, or actions of the Government of China may be unreasonable or discriminatory and that may be harming American intellectual property rights, innovation, or technology development" (p. 14,906), which contravenes Section 301 of the 1974 Trade Act.[1] The first two lists of tariff increases (U.S.TR, 2018, p. 14,906), which included more than 1300 categories and products totaling USD 50 billion, were implemented on July 6 and August 23 of 2018, respectively.[2] These two lists cover a variety of industries including the pillar industries of U.S.–China trade such as raw materials (e.g., SIC 2820 Plastic Material, Synth Resin/Rubber, Cellulos (No Glass)), machinery manufacturing (e.g., SIC 3569 General Industrial Machinery & Equipment, NEC), and electronic industries (e.g., 3670 Electronic Components & Accessories). The third list has expanded the scope to USD 200 billion worth of Chinese products.[3] However, its effectiveness was postponed to 2019, and the tariff increase was modified from 10% to 25%, which makes the execution of the third list different from the first two. Thus, we focus on the industries named and included in the first two lists to avoid these changes confounding our analysis.

4.2 | Data and sample

Our research sample comes from several databases including Compustat, Bloomberg SPLC, FactSet Revere, CSMAR Supply Chain Database, and Hexun. The initial firm list and financial data of U.S. buyers were obtained from the Compustat database. To maximize the data availability, the suppliers' information of the U.S. buyers was collected from three databases: Bloomberg SPLC, FactSet Revere (Agca et al., 2022; Gualandris et al., 2021), and CSMAR. Among them, Bloomberg SPLC and FactSet Revere mainly collected information from U.S. buyers' sides, which are quite consistent in terms of firm (suppliers and buyers) coverage (Fan, Zhou, et al., 2022). Whereas the information source of the CSMAR database was mainly based on the Chinese listed firms' reports of their overseas customers, which could make a supplement for our sample, the financial and innovation data for Chinese suppliers were obtained from the CSMAR database, and the CSR information for Chinese suppliers was obtained from the Hexun database.

We defined the 2 years (2016 and 2017) prior to the 2018 trade war as the base years or pre-trade war period. The buyer–supplier dyads had not yet been affected by the pre-event time window. Moreover, we defined the years 2018 and 2019 as the post-trade war period. The research window stopped in 2019 because the major disruption caused by COVID-19 in 2020 may have confounded our analysis. In contrast to the previous literature, which is commonly focused on the buyer's view (Narayanan et al., 2015), we used the buyer–supplier dyad as the analytical unit. We defined the treated dyad as the buyer–supplier pairing involving a U.S. buyer and a Chinese supplier.

The specific data collection process is summarized in Panel A, Table 2. The data collection process began with obtaining the firms' names of U.S. buyers from the Compustat database. We used each company's name to search the ticker code in the Bloomberg SPLC and FactSet Revere databases to obtain the supplier data, including the supplier's name, ticker, and location. As for the CSMAR database, it includes information on Chinese listed firms' five biggest buyers. We used the buyers' names, which are provided in the CSMAR database, to identify their other information in the Compustat database. We also required the dyads to have available transaction data during the pre- (2016–2017) and post-trade war periods (2018–2019). In other words, we need dyads to have at least one transaction data both in the pre- and post-trade war periods. As a result, we obtained data for 17,355 buyer–supplier dyads (1491 U.S. firms) for the pre-event window as the initial data pool.

TABLE 2 Data collection steps.

Steps	Dyads removed	U.S. buyers removed	Dyads remained	U.S. buyers remained	Databases used
Panel A: Establish a pool of potential treated and control dyads					
1 Start with U.S. firms (buyers) with financial data and supply chain available (including transaction data) for pre- and post-war period			17,355	1491	Bloomberg SPLC, FactSet Revere, CSMAR, Compustat
2 Remove dyads with the U.S. buyers in industries not affected by the trade war	7417	746	9938	745	Documents from USTR
3 Identify U.S. buyers' suppliers located in overseas markets	4807	239	5131	506	Bloomberg SPLC, FactSet Revere
4 Remove dyads where the U.S. buyers did not have U.S.-based operations (reflected by PP&E)	169	29	4962	477	Compustat
5 Remove dyads with missing data in control variables of the suppliers and U.S. buyers	437	41	4525	436	Compustat
Panel B: Identify treated dyads and their matched control dyads					
6 Start with 751 U.S.–Chinese matched pairs			751	227	
7 Remove treated dyads with suppliers not in CSMAR and Hexun CSR database	275	63	476	164	CSMAR and Hexun
8 Remove treated dyads that could not find control dyad fulfilling the rest of matching criteria	133	35	343	129	Bloomberg SPLC, FactSet Revere

We then identified the influenced industries based on the official documents of trade action industry lists one and two from USTR. Considering that the USTR adapts the Harmonized Tariff Schedule of the United States (HTSUS) code for industry classification, we transformed HTSUS to the North American Industry Classification System (NAICS) code (six-digit) based on the translation table supplied by the United States International Trade Commission (2020) and used by Compustat to identify the affected industries as per NAICS corresponding to those on lists one and two of the USTR. Based on the two lists, we removed 7417 dyads where the buyer's industry was not in the trade war industries. Besides, we deleted the 4807 dyads with the domestic U.S. suppliers to focus on the global supply chain context. In addition, we also required the U.S. buyers to have operational assets and resources, such as property, plant, and equipment (PP&E) in the U.S. to ensure they had local operations. We removed 169 dyads in this step, and 4962 dyads remained. Last, we removed dyads with missing data from the control variables for the U.S. buyers. We further removed 437 dyads, leaving 4525 dyads for 436 U.S. firms. These steps established a pool of potential treated and control dyads for our study.

4.3 | Event study design

To examine H1, we followed previous studies and designed a long-horizon event study (Corbett et al., 2005; Lo et al., 2014), a quasi-natural experiment research method. The treatment of the experiment was the initiation of the U.S.–China trade war in 2018 applied to the buyer–supplier dyads. Thus, we aimed at comparing the transaction value change of the treated dyads before (2016 and 2017) and after (2018 and 2019) the trade war event. It can be seen in Panel B of Table 2 that from the pool of 4525 dyads, we identified that 751 of them were dyads between U.S. buyers and Chinese suppliers. There were treated dyads, namely, dyads affected by the trade war event. From the pool of 751 treated dyads, we further removed dyads where the data on the Chinese supplier were unavailable from the CSMAR database. This reduced the pool of treated dyads by 275–476.

Because the counterfactual outcome was not observed, a straightforward comparison of the treated dyad's transaction value before and after the treatment may have resulted in issues in its evaluation. We used a matching approach to create a benchmark counterfactual outcome (i.e., a control group) to evaluate the treatment effect, with U.S. buyer and non-Chinese supplier dyads. In the matching process, we began with 476 matched pairs. The treated and control dyads had to be relatively comparable for the control group to serve as a good benchmark. Prior long-horizon event researchers have utilized a variety of criteria to establish controls, including company size and performance (Barber & Lyon, 1996; Huang et al., 2021).

Specifically, a treated buyer$_i$–supplier$_j$ dyad was matched to a control buyer$_i$–supplier$_k$[4] dyad based on five criteria. First, the matched dyads had the same U.S. buyer (i.e., buyer$_i$) and the same industry for the suppliers. Specifically, we adopted the SIC criteria to define the same industry (four-digit SIC code) between treated and control groups. For those treated dyads for which we could not find a comparable control dyad with a four-digit SIC, we gradually relaxed the industry to three-digit, two-digit, or sector-wide SIC codes[5] to identify their control dyads. The distribution dyads by using different matching standards can be seen in Table 3.

Second, the matched dyads had suppliers of similar size, where supplier$_k$'s total assets should be within 50%–200% of supplier$_j$'s total assets (measured in the natural logarithm value). Third, the matched dyads had suppliers of similar performance, where supplier$_k$'s return on assets (ROA) should be within 20%–500% of supplier$_j$'s ROA. Fourth, supplier$_k$ should be in a country that did not experience large-scale trade disputes with the U.S. during the study period (i.e., 2016–2019). Finally, the institutions of supplier$_k$'s original countries should be similar with that of supplier$_j$'s when measured by the Global Economic Freedom Index. With the three quantitative criteria, namely total assets, ROA and the Global Economic Freedom Index, we used the nearest-neighborhood matching principles to find the control dyads that had the nearest distance to the matched treated dyads. The specific calculation of distance is listed as follows:

TABLE 3 Distribution of control dyads by using different standard of same industries.

Standard of same industry	Matched dyads	Accumulated matched dyads
SIC-4	74	74
SIC-3	38	112
SIC-2	37	149
Range of SIC	194	343

$$\text{Distance}_{jk} = \sqrt{\sum_{n=1}^{n} (jn - kn)^2}. \quad (1)$$

The aforementioned matching procedure resulted in further sample reduction. As shown in Panel B of Table 2, we removed treated dyads that could not be matched with a control dyad that fulfilled the rest of the mentioned criteria. This led to a further reduction of 133 treated dyads, resulting in a final study sample of 343 treated dyads, matched to an equal number of control dyads.

To test the matching quality, because the matched dyads had the same U.S. buyer (i.e., buyer$_i$), we assessed whether their suppliers (i.e., supplier$_k$ and supplier$_j$) had similar characteristics. Analysis results showed the differences to be nonsignificant ($p > .1$) in terms of profitability and firm size (see Table 4). In addition, the difference between the institutional environments of supplier$_k$'s original countries should be similar (within three standard errors) with that of supplier$_j$'s when measured by the Global Economic Freedom Index, which is one of the most used indexes to measure countries' trade freedom, business freedom, investment freedom, and property rights (Aybar & Ficici, 2009; Meyer et al., 2009). Suppliers$_k$ come from a total of 34 countries. The distribution of the top five original countries of supplier$_k$ is listed in Table 5. Intriguingly, the results reveal a relatively smaller number of control dyads originating from developing countries. One key reason for this pattern is the specific targeting of high-tech industries in China by the U.S. sanctions. Upon examining our sample, we found that the predominant industries among the top five locations for matched suppliers (Japan, Province of Taiwan, South Korea, France, and India) are consistently within the electronic equipment manufacturing sector.

With the matched dyads, we could then examine the influence of the trade war event on BSRs by comparing the pre- to post-event change in the treated dyads' BSRs to that of the control dyads' BSRs during the same period. This was done in three steps. The first step was to measure BSR. The direct nature of BSRs is transactional; thus, any change in BSRs should be reflected in sales between buyers and suppliers. The annual transactional value for the dyad$_{ij}$ was calculated as the sales made by the supplier$_j$ to the buyer$_i$ scaled by the cost of goods sold by the buyer$_i$ (see Formula (2); Hui et al., 2012).

$$\text{Transactional value}_{ij} = \text{Sales}_{ij} / \text{Cost of good sold}_i. \quad (2)$$

We used the average transactional value in 2016 and 2017 for the pre-trade war period. If only one value was available (in 2016 or 2017), we used single value for the

TABLE 4 Tests of matching quality (supplier characteristics).

		ROA	Total assets (natural logarithm value)	Total assets (original value in million)	Country	Buyers and industry
Suppliers of the treated dyads	Mean	0.04	20.02	3067.12	China	Same
	Max value	0.36	25.17	85,620.45		
	Min value	−0.53	12.96	0.43		
Suppliers of the control dyads	Mean	0.03	19.90	3957.37	Countries not in trade disputes with the United States	
	Max value	0.37	23.05	16,071.77		
	Min value	−0.25	11.73	0.12		
Difference *p*		.17	.52	.11	/	/

TABLE 5 Distribution of the location of supplier_k.

Country	Count	Ratio
Japan	63	18.37%
Province of Taiwan	60	17.49%
South Korea	45	13.12%
France	25	7.29%
India	20	5.83%

calculation (Pagell et al., 2019). Using 2 years for the estimation can mitigate the bias from irregular variations and outliers. We conducted a similar measure to take the average value in 2018 and 2019 for the post-event time.

The next process was to calculate the abnormal transactional value, which was obtained by differencing the changes in transaction value (from pre- to post-event) of the treated dyad_{ij} with the control dyad_{ik} for the same period. For the calculation we used the following formula:

$$\begin{aligned}&\text{Abnormal transactional value}_{ij}\\&=\left(\text{transactional value}_{ij\text{post}}\right.\\&\quad\left.-\text{transactional value}_{ij\text{pre}}\right)\\&\quad-\left(\text{transactional value}_{ik\text{post}}-\text{transactional value}_{ik\text{pre}}\right).\end{aligned}\tag{3}$$

The third and final step was to test whether the abnormal transactional value was statistically smaller than zero (the null effect) by using a parametric paired *t*-test.

4.4 | Hypothesis testing methods

Whereas the H1 was tested using the abnormal transaction value with the event study design, the subsequent hypotheses were tested using regression methods. For H2 to H4, following prior relevant studies (Lo et al., 2014; Swink & Jacobs, 2012), we regressed the abnormal transactional value (%) (from Formula (3)) on the innovation capability, CSR performance, and local political ties of the Chinese suppliers. With this regression model, we aimed to examine whether the aforementioned supplier characteristics could predict the abnormal transactional value. The information used to capture independent and control variables was taken from the pre-trade war period (average value of 2016 and 2017). We explain the measures of variables used in the regression models as follows.

Innovation capability—Consistent with prior studies (Artz et al., 2010; Stuart & Podolny, 1996), we used the natural logarithm of the number of invention patents granted to capture suppliers' innovation capability. The Chinese patent system includes three kinds: design patents, utility model patents, and invention patents. Among them, invention patents can best reflect firms' capabilities and performances in innovation because they are a significant improvement over existing technologies (Wang et al., 2021). A greater number of granted invention patents means focal firms have a better innovation capability (Lahiri & Narayanan, 2013; Romijn & Albaladejo, 2002).

CSR performance—The information on CSR performance was obtained from Hexun social responsibility data. As one of the most authoritative and earliest rating agencies in China, Hexun began to publish an annual assessment of the CSR performance of Chinese listed firms from 2010. Such data are widely used by previous

researchers who published in top CSR and operation journals (Gong et al., 2021; Li et al., 2021). Compared with other CSR rating data, Hexun covers the largest range of Chinese listed companies, which suits our empirical approach well. Hexun uses various data sources including listed firms' annual reports and CSR reports to evaluate their CSR performance. In this study, we measured CSR performance by using the aggregated indicator, which was based on the weighted average of scores including responsibility in the scopes of shareholder (30%), employee (15%), supplier and consumer (15%), environment (20%), and social (20%). Each of these area scores was aggregated from a range of relevant secondary and tertiary indicators. The weight of these scores was adjusted by industry type.

Local political ties—Corporate political ties take various forms, such as ownership ties (Sapienza, 2004; Tihanyi et al., 2019) and managers' connections with political agencies (Shen et al., 2023; Zheng et al., 2015). Considering the economic system in China is commonly characterized as a form of state capitalism where the state plays important economic coordination roles through its ownership of corporations (Li et al., 2014; Witt & Redding, 2013), we measured Chinese suppliers' local political ties based on their state ownership (Okhmatovskiy, 2010). Specifically, following prior studies (Tihanyi et al., 2019; Zhou et al., 2017), we measured this variable by the ratio of ownership that ultimately belongs to the home state entity from different levels of the home government, state-owned asset investment, and management bureaus.

We controlled buyer-, supplier-, and dyad-level factors that may affect BSR. At the buyer level, we included the buyer's size, which was measured by the natural logarithm of their total assets; and the profitability, which was measured by their ROA. Prior studies suggest that suppliers use a buyer's size and profitability to assess their trustworthiness as a basis for BSR (Doney & Cannon, 1997; Saeed et al., 2005). Several researchers state that a strong BSR can be based on the learning opportunities a supplier can access from the buyer (Bellamy et al., 2014; Isaksson et al., 2016). Specifically, suppliers seek learning opportunities from buyers with high levels of innovation capability, as evidenced by the latter's patent record. Therefore, we included the buyer's patents as the control variable by using the natural logarithm of the total number of patents granted to buyers. This information could be sourced from the Global Corporate Patent Dataset. Additionally, the availability of alternative supply sources can affect a buyer's approach to a focal BSR, such as its likelihood of engaging in opportunistic behaviors (Hoetker et al., 2007). Hence, we controlled the effect of a buyer's alternative suppliers, which was measured as the total number of suppliers that a focal buyer has.

Similarly, at the supplier level, we also included supplier size (captured by the natural logarithm of suppliers' total assets) and profitability (captured by ROA) as the control variables. These two variables capture the most important information for buyers: the attractiveness and trustworthiness of suppliers (Brown et al., 2009; Choi & Krause, 2006). Additionally, we also took supplier's alternative buyers as an important control variable because it is highly relevant to the formal and informal interactions between buyers and suppliers (Hoetker et al., 2007; Isaksson et al., 2016). Moreover, unlike developed markets, the institutional voids in emerging markets, such as China can also affect their firms' supply chain configuration. Studies show that institutional voids in emerging economies can motivate firms to move away from their home markets (Marano et al., 2017; Witt & Lewin, 2007) and instead participate in the global supply chain by actively pursuing and maintaining BSRs with foreign buyers (Allen & Santomero, 2001; Benner, 2003). Of particular relevance to Chinese suppliers' motive to escape the home market is the market intermediary development in their home location. Such an index can be measured through several aspects including the development of market intermediary organizations (lawyers, accountants, technical services, and industry associations), protection of the legitimate rights and interests of producers, and intellectual property protection and protection of rights and interests of consumers in the local market (Yiu et al., 2022). The underdevelopment of home location market intermediaries increases the transaction costs of establishing and maintaining domestic BSRs. For example, in regions that have a low level of market intermediary development, local firms may experience a high level of uncertainty because the government cannot enforce the law fairly and effectively to protect the legitimate rights and interests of firms. We measured this variable using the market intermediary development sub-index of Chinese provinces, introduced by the National Economic Research Institute (NERI). The NERI's marketization indices of Chinese provinces have been widely used in existing studies of the subnational diversity of institutional development in China (Banalieva et al., 2015; Yiu et al., 2022).

Last, in the dyad aspect, we controlled for the influence of exchange history, which indicates the strength of BSR because of mutual dependence, perceived importance, and trust building (Hedenstierna et al., 2019). Exchange history was captured by the time of cooperation (transactions) between the focal buyer and supplier. The measurements for variables are summarized in Appendix 1.

5 | RESULTS

5.1 | Hypothesis testing

Table 6 reports the results for H1. We adopted the parametric paired *t*-test to examine if abnormal transactional values were statistically smaller than zero (the null effect). The results show that the treated dyads had a significant average abnormal change of −0.14% (95% confidence interval [−0.27%, −0.001%], $p = .048$) in the transaction when compared with control dyads during the period of 2016–2019. A 56.56% of the treated dyads have negative abnormal transactional value changes ($p = .02$). Such results show that trade conflict would cause a scale-back in the relationship between U.S. buyers and Chinese suppliers. Given the average transactional value was 0.76% (with an average sales amount of USD 172.15 million) before the trade war, a 0.14% reduction (with an average sales reduction of USD 31.71 million per supplier) represents a substantial (18.42%) scale-back of BSR. The WSR and sign tests resulted in the same conclusion, which supported H1. In addition, we also calculated the abnormal transactional values from the pre-trade war period to 2018 and 2019, respectively. Results showed a significant negative average abnormal transactional value right after the trade war started (−0.11% till year 2018) and how the negative impact continued a year after the start of the trade war (i.e., −0.17% till year 2019).

In this research, we conducted a regression analysis to examine H2–H4. Table 7 reports the descriptive statistics and correlations of the variables used in our regression models. We calculated variance inflation factors (VIFs) to assess multicollinearity concerns prior to following regression analyses. Our analysis shows that the biggest value of VIF is 2.82, far below the threshold of multicollinearity concern.

We reported the results of regression analysis in Table 8. Model 1 tested the influence of control variables at different levels. Model 2 tested H2, the result of which shows that innovative capability had a significant positive coefficient ($b = 0.13$; $p = .04$). Such a result points out that the suppliers' innovation capability weakens the negative influence of the trade war on the dyadic transactional value. We also captured the effect size of innovative performance by using the marginal effect analysis. The results revealed that as innovation capability increased by one standard deviation, the abnormal transactional value increased by 32.48%.[6] H2 was therefore supported.

Model 3 tested H3. The results show that CSR performance was positive and marginal significant ($b = 0.01$, $p = .09$) related to the dependent variable. It indicates that the suppliers' CSR performance can weaken the unfavorable effect of the trade conflict on the dyadic transactional value. We calculated its effect size and found that as CSR performance changed from its mean value to one standard deviation above the mean, the dependent variable increased by 28.58%. H3 was also supported.

Results in Model 4 show that the coefficient of local political ties was negative and significant ($b = -0.64$, $p = .04$). This result indicates that when state-owned firms changed from its mean value to one standard deviation above the mean, the abnormal transactional value decreased by 32.65%[6]. H4 was supported.

Model 5 is the complete model that tests the different moderating variables in a single model. This model shows that all the significant results remain the same. The adjusted R^2 in Model 5 has risen by 4.35% relative to Model 1, demonstrating that the inclusion of the three additional variables has enhanced the predictive capability of model.

5.2 | Placebo tests

The placebo test originates from medical research. The basic idea of the placebo test is to randomly divide

TABLE 6 Abnormal transactional value.

Pre-event	Post-event	*N*	Mean (%)	*p*-value (*t*-test)	Percentage	*p*-value (sign-test)	Median (%)	*p*-value (WSR-test)
2016–2017 average	2018–2019 average	343	−0.14	.05	56.56%	.02	−0.01	.47
2016–2017 average	2018	291	−0.11	.05	56.70%	.03	−0.01	.29
2016–2017 average	2019	239	−0.17	.10	53.97%	.24	−0.01	.73

Note: Percentage indicates the percentage of negative abnormal transaction values; the *N*s in the second and third rows are smaller because the first row use the average value of year 2018 and 2019, and use that single value for the calculation if only one value was available (in 2018 or 2019) (Pagell et al., 2019); numbers are rounded to two decimal places.

TABLE 7 Descriptive statistics and correlations.

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Abnormal transactional value (%)	−0.14	1.29	1												
2. Innovative capability	1.41	1.47	0.04	1											
3. CSR performance	27.52	17.93	0.03	0.10^{+}	1										
4. Local political ties	0.27	0.36	−0.03	0.01	0.19**	1									
5. Buyer size	19.40	2.72	0.11*	0.04	0.04	0.05	1								
6. Buyer profitability	0.05	0.03	−0.18**	0.04	−0.06	−0.04	−0.11*	1							
7. Buyer's alternative suppliers	225.98	208.35	0.10^{+}	0.07	0.05	−0.03	0.71**	−0.20**	1						
8. Buyer's patent	3.58	2.18	0.15**	0.11**	0.05	−0.07	0.46**	−0.01	0.62**	1					
9. Exchange history	1.51	1.5	−0.02	0.02	−0.03	0.10*	0.04	−0.03	−0.06	−0.08	1				
10. Supplier size	20.02	2.21	−0.05	0.16**	0.07	0.25**	−0.06	0.09	−0.03	−0.03	0.02	1			
11. Supplier profitability	0.04	0.08	−0.08	−0.03	−0.04	−0.10^{+}	0.03	0.07	0.05	0.02	0.05	0.09^{+}	1		
12. Supplier's alternative buyers	15.59	27.23	−0.01	0.09^{+}	−0.06	−0.01	−0.03	0.11*	0.01	0.01	−0.10*	0.13*	−0.07	1	
13. Market intermediary development	10.25	2.28	0.03	−0.04	0.15**	−0.08	−0.03	0.10^{+}	−0.06	−0.07	−0.05	0.02	0.02	−0.04	1

Note: $^{+}p < .10$, $^{*}p < .05$, $^{**}p < .01$ (two-tailed).

patients into an experimental group, which receives the real treatment, and a control group, which receives the placebo treatment. The difference in efficacy between the two groups would then be compared. If the therapeutic effect of the experimental group is significantly better than that of the control group, it indicates that the treatment method has certain efficacy. Otherwise, if there is no significant difference in efficacy between the two groups, the treatment may be ineffective or simply have a placebo effect.

The main idea of placebo tests has been extended to various research areas including policy studies. In the setting of the quasi-natural experiment, the main logic of the placebo test is to use the "fake" experimental group or policy occurrence time to test whether the policy effect can still be obtained (Athey & Imbens, 2017; Ho et al., 2017). If a policy effect is still observed, it suggests that the policy effect is unreliable. In this study, we conducted two placebo tests including constructing a fake experiment group and policy time to test whether our policy effects were robust. First, we followed existing literature and randomly created 343 fake treatment dyads in which the suppliers were not Chinese firms and therefore not influenced by the trade war event (Fan, Zhou, et al., 2022; Ho et al., 2017). We then repeated the matching procedures 1000 times and used *t*-tests for testing H1. The distribution of *t*-values for abnormal transactional values can be seen in Appendix 2. The result showed that 97.6% of these "false" *p*-values were nonsignificant (*t*-values in the range from −1.65 to 1.65). In other words, a policy effect was not consistently evident when the placebo test was applied to the treatment.

In addition, following previous studies (Athey & Imbens, 2017; Mitze et al., 2020; Ren et al., 2023), we created a "false trade war" in 2017. In this hypothetical scenario, the years 2015 and 2016 were pre-events, and 2017 and 2018 were post-events. After data collection and matching process, we got a sample of 263 matched dyads. The specific results can be seen in Appendix 3. The *t*-tests of abnormal transactional value failed to return a significant result ($b = -0.06$; $p > .1$). In other words, a policy effect was not observed with a fake policy occurrence time. Overall, the nonsignificant results of these placebo tests suggest that the effect hypothesized in H1 was not a random occurrence.

5.3 | Other tests on robustness

For this research we adopted further robustness checks to assess the sensitivity of the findings through the use of alternative estimation methods,

TABLE 8 Regression results.

Variables	(1)	(2)	(3)	(4)	(5)
	Abnormal transactional value (%)				
Buyer size	0.05	0.04	0.05	0.05	0.05
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Buyer profitability	−6.90*	−7.56**	−6.45*	−6.99**	−7.13**
	(2.69)	(2.69)	(2.69)	(2.67)	(2.66)
Buyer's alternative suppliers	−0.00	−0.00	−0.00	−0.00	−0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Buyer's patent	0.11*	0.10^{+}	0.11*	0.11*	0.10^{+}
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Exchange history	−0.01	−0.02	−0.00	−0.01	−0.01
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Supplier size	0.01	0.00	0.00	0.04	0.02
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Supplier profitability	−1.61	−1.52	−1.79	−1.85	−2.00
	(1.39)	(1.38)	(1.39)	(1.38)	(1.37)
Supplier's alternative buyers	0.00	−0.00	0.00	−0.00	−0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Market intermediary development	−0.33	−0.28	−0.39	−0.27	−0.28
	(0.41)	(0.41)	(0.41)	(0.41)	(0.40)
Innovative capability		0.13*			0.13^{+}
		(0.07)			(0.06)
CSR performance			0.01^{+}		0.01^{+}
			(0.01)		(0.01)
Local political ties				−0.64*	−0.74*
				(0.31)	(0.31)
Constant	2.94	2.61	3.38	1.92	1.95
	(5.01)	(4.97)	(4.99)	(4.99)	(4.93)
R^2 (%)	33.66	34.90	34.52	34.97	37.31
N	343	343	343	343	343
F-value	0.89	0.93	0.92	0.93	1.01
Δadjusted R^2 (%)	-	1.47	0.86	1.59	4.35

Note: Standard errors in parentheses; $^{+}p < .10$, $^{*}p < .05$, $^{**}p < .01$; numbers are rounded to two decimal places; Δadjusted R^2 compared with Model 1.

measurements, and treated dyads. First, we used an alternative estimation method to test H1. Our main analysis followed the event studies method to calculate the abnormal transaction value. The abnormal value has the advantage of directly illustrating the magnitude of the treatment effect. However, the analysis does not include an error term to account for the unobservable. To address this concern, we used difference-in-difference (DID) regression to capture the differences in transactional value. The regression model was specified as follows:

$$\begin{aligned}\text{Transactional value}_{ijt} = {} & \text{Intercept} + \beta_1 \text{Post}_t \\ & + \beta_2 \text{Chinese Suppliers}_i \\ & + \beta_3 \text{Post}_t \cdot \text{Chinese Suppliers}_i \\ & + \gamma X_{ijt} + \varepsilon_{ijt}.\end{aligned} \tag{4}$$

The dependent variable is the transactional values of dyad_{ij} in the year t. Post_t equals 1 if the year t corresponds to the year on or after the 2018

announcement of tariff increases (i.e., 2018 and 2019)—otherwise, it equals 0. Chinese Suppliers$_i$ equals 1 if the dyad$_{ij}$ has first-tier Chinese suppliers—otherwise, it equals 0. X_{ijt} includes the control variables in the supplier$_i$, U.S. buyer$_j$ and dyads$_{ij}$ levels used in the primary analysis, including the industry and yearly fixed effects. ε_{ijt} is the error term to account for the unobservable factors in the Chinese supplier$_i$, U.S. buyer$_j$ and dyads$_{ij}$ levels.

The validity of the DID approach depends on the parallel trends assumption, which is a correlation test to evaluate whether there is a certain equal increase or decrease trend between two experimental and control groups (Botosaru & Gutierrez, 2018). Specifically, the parallel trend test assumes that there is a parallel trend between the experimental group and the control group before the policy is implemented (Alonso & Andrews, 2019; Barrios et al., 2023). In our research, the assumption is that there is no significant difference in the trend change between treated dyad$_{ij}$ with the control dyad$_{ik}$. If this hypothesis is true, then it can be assumed that any differences between the treated dyad$_{ij}$ with the control dyad$_{ik}$ after the implementation of the trade are caused by the trade war itself.

We plotted parallel trends in Appendix 4. It shows that all coefficients in the pre-trade war period were nonsignificant, which suggests the absence of divergent trends in the treatment and control groups before the event. The results indicate that our analysis did not violate the parallel trends assumption. Appendix 5 presents the DID analysis results, showing that the interaction term, Post$_t$ *Chinese Suppliers$_i$, was marginally significant and negative ($b = -0.14$; $p = .06$), which supported H1. The treated dyads had a 0.14% reduction in transactional value compared with the control dyads in the trade war, which is consistent with the findings from our primary analysis.

We also ran a set of robustness tests using alternative measurements of several important variables. We used an alternative measure of the supplier's innovative capability to test H2. In the primary analysis, we adopted the total number of invention patents to capture the innovative capability of Chinese suppliers. In this robustness test, we used the total number of patents (natural logarithm transformed)—including all invention, utility model, and design patents—to substitute the measurement of innovative capability (Bettis et al., 2016; Eroglu & Hofer, 2011). It can be seen the effect of innovative capability on abnormal transactional value is almost kept the same ($b = 0.10$; $p = .095$; see Appendix 6).

We used an alternative measure of the supplier's CSR performance to test H3. Following previous studies, we used charity spending as an alternative measurement (Lin et al., 2015; Zhang et al., 2016). Charity spending is an important channel for performing CSR and can raise firms' "moral capital" in the eyes of buyers (Wang & Qian, 2011). More specifically, we used the natural logarithm value of total charity spending to capture the CSR performance of suppliers. It can be seen that CSR performance exerts a positive and marginally significant influence on abnormal transactional value ($b = 0.10$; $p = .05$; see Appendix 7), which further supports H3.

We captured a different type of local political ties to test H4. Our primary analysis used state ownership to capture the equity-based political ties of the Chinese suppliers. We used the state-owned enterprises (SOE) status, which is measured as a dummy variable (equal to 1 when focal firm is state-owned) to retest the hypothesis (Zhou et al., 2017). With this alternative measure, regression results show that the SOE dummy was negatively associated with an abnormal transactional value ($b = -0.50$; $p = .05$; see Appendix 8). This effect was consistent with that of equity-based local political ties, supporting the prediction of H4.

Besides, the treated dyads used in our primary analysis included dyads that had the same Chinese suppliers. The scale-back of BSR of these dyads may be interwoven, undermining the independence of each observation of the dyad in the analysis. Thus, we dropped repetitive dyads and reran our analyses. Results showed that the abnormal transactional value was still marginal significantly negative (mean $= -0.14\%$, $p = .07$) in the full research window (see Appendices 9 and 10), which suggests that the appearance of a supplier in multiple dyads did not falsify our results.

In addition, we also adopted different standards of the same industry to retest our hypotheses. Specifically, we included treated dyads that have control dyads in the same NAICS-5, SIC-4, and SIC-3 as the sample. The results show that all the significant results still almost remained the same when using such narrowed standards (see Appendices 11 and 12).

Finally, we also changed the matching method from one-by-one to one-by-portfolio to retest our hypotheses. In the matching steps, we kept all the control dyads that met the matching standard concerning the same buyer and industry, ROA, and total assets, which is the same as standard in the main analysis. In this step, we formed the pools that totally include 1459 control dyads, which matched with the treated dyads. After that, we calculated the average transaction value before and after the trade war for control dyads that could match with one treated dyad. Then, we computed the abnormal change for each matched control dyad and calculated their mean abnormal change before and after the trade war based on their matched treated dyads. Based on the mean change for

control dyads, we then calculated the abnormal transaction value by calculating the difference between of treated dyads and the mean value for control dyads. The results show that the treated dyads experienced an average abnormal change of −0.17% in transactions compared with the mean value of control dyads from 2016 to 2019, which is consistent with the main test (see Appendix 13). In addition, the regression results almost remained the same as the main regression (see Appendix 14).

Our primary analysis provided a conservative estimation of the trade war's effect because we excluded dyads with no records in the post-trade-war period, potentially overlooking dyads completely dissolved by the trade war. To address this, we conducted a robustness check by adjusting our sample selection criteria to include dyads that had transaction data only from the pre-trade-war period. The absence of transaction data for the post-war periods (2018–2019) was interpreted as a complete dissolution of the relationship, assigning a transaction value of zero. This adjustment, alongside the incorporation of additional supply chain data, expanded our sample size from 343 to 474 treated dyads. Utilizing this expanded sample, we found that our findings remain largely supported (see Appendices 15 and 16). Consequently, the estimated magnitude of the trade war's impact on the reduction of treated buyer–supplier transactions increased from 18.42% (in the primary analysis) to approximately 26%.

5.4 | Additional analysis

Here, we focus on the influence of increased tariff from Chinese governments on the relationship between U.S. suppliers and Chinese buyers. Facing the increased tariff, Chinese governments also made a response by imposing an additional 25% tariff on $34 billion worth of U.S. goods, including 14 categories of 106 U.S. products that consist of soybeans, automobiles, and chemicals in 2018.[7] Following the previous data coding and matching process, we repeated the whole procedure to attain our research sample. The information on U.S. suppliers is received from Bloomberg SPLC and FactSet Revere, and CSMAR databases provide the information regarding Chinese buyers. Afterward, we also followed a quasi-natural experiment research method to create a control group to evaluate the treatment effect, in U.S. buyer and non-Chinese supplier dyads. Similar to the previous matching process, we adopted a variety of criteria to establish controls in terms of industry, size, ROA, and source countries. Finally, the institutions of buyers in the control dyads' original countries should be similar to those of buyers in the treated dyads (differences within three standard errors when measured by the Global Economic Freedom). By using nearest-neighborhood matching principles, we finally attained 279 treated dyads, matched to an equal number of control dyads, which shows good matching quality (see Appendices 17 and 18).

When using a parametric paired *t*-test to examine the significance of abnormal transactional values, the results showed that the treated dyads had an average abnormal change of −0.07% ($p = .17$) in the transaction when compared with control dyads during the period of 2016–2019 (see Appendix 19). The results show that the mentioned influence became significant in the year 2019 when the treated dyads had a significant average abnormal change of −0.14% ($p = .06$). Given that the average transactional value was 0.77% (with an average sales amount of USD 168.86 million) before the trade war, a 0.07% reduction (with an average sales reduction of USD 15.35 million per supplier) represents a substantial (9.09%) scale-back in the transaction.

6 | DISCUSSION AND CONCLUSION

In this study we examined the effects of geopolitical conflicts on the transactional dynamics of cross-border buyer–supplier transactions, with a focus on the 2018 U.S.–China trade war. We aimed to ascertain if this event precipitated the transaction scale-back between Chinese suppliers and U.S. buyers. Utilizing a quasi-natural experiment design, our analysis revealed a significant negative impact: the trade war led to an 18.42% reduction in the transaction value of affected buyer–supplier dyads from the pre-event level. This finding underscores the vulnerability of cross-border buyer–supplier transactions to bilateral geopolitical tensions. Our research further uncovers that certain factors can mitigate or exacerbate this negative impact. Specifically, we found that a supplier's strong innovation and CSR performance can attenuate the adverse effects of geopolitical conflicts on transaction values. In addition, the Chinese suppliers less entangled with the local political ties suffer less from the negative outcomes. This section will discuss the implications of our findings to various streams of literature and managerial decision-makings.

6.1 | Implications for cross-border BSR literature

This study contributes to the literature on cross-border BSRs (e.g., Carter, 2000). It uniquely focuses on the

influence of external factors, specifically geopolitical conflicts, on buyer–supplier transactions. This approach contrasts with the prevailing emphasis in current literature on how formal (e.g., contracts) and informal (e.g., trust) mechanisms assist buyers in managing cross-border BSRs (Cannon et al., 2010; Li et al., 2010). Our investigation offers a fresh perspective on the dynamic interplay between international relations and cross-border BSRs, an area that remains largely underexplored in the existing body of work (Ciravegna et al., 2023; Ratten, 2023; Witt, 2019).

Therefore, our research responds to this urgent demand by providing empirical evidence on how such conflicts may cause a reduction in cross-border buyer–supplier transactions. This finding diverges from previous studies that predominantly focus on internal causes for the dissolution of BSRs, such as mutual blame (Chen et al., 2016) and perceived injustice (Mir et al., 2017). Future research may explore the mechanisms through which geopolitical conflicts influence other dimensions of BSRs beyond the buyer–supplier transactions, such as collaborative innovation (Shen et al., 2021), sustainable supply chain management (Seuring & Müller, 2008), and supply chain coopetition (Wilhelm, 2011) among cross-border supply chain partners.

In addition, OM literature has long discussed factors affecting global sourcing strategies, such as control and communication technologies (e.g., Bozarth et al., 1998; Jia et al., 2017). However, much of this literature typically assumes a stable global trade environment (Dong & Kouvelis, 2020). Recently, OM scholars have called for research into how global sourcing strategies adapt in the face of uncertainties posed by grand challenges such as COVID-19 (Brusset et al., 2023), extreme weather events (Shu & Fan, 2024), and geopolitical conflicts (Fan, Yeung, et al., 2022).

In line with this trend, our findings resonate with recent analytical (Dong & Kouvelis, 2020) and qualitative (Roscoe et al., 2020) studies by providing empirical evidence on how buyers reconfigure their supply chains amid geopolitical uncertainty. Our results suggest that buyers are increasingly incorporating geopolitical risk assessments within their global sourcing decision-making. Additionally, our research reveals the supplier-dependency challenges faced by buyers attempting to adjust global sourcing for geopolitical risk mitigation. Traditionally, supplier innovation and CSR performance have been viewed as crucial contributors to a buyer's performance (e.g., Dong et al., 2020; Fan et al., 2021). Our findings show that, in the context of geopolitical conflicts, these supplier factors may effectively constrain buyer's sourcing decisions by locking them into the current relationship despite the exposure to the geopolitical risks. In other words, suppliers with advanced innovation capabilities or robust CSR performance may have become entrenched within the buying firm's operations, making them less replaceable and increasing the buyer's dependency on the supplier. Future research may examine strategies to reconcile the trade-offs between dependency on suppliers due to their innovation or CSR initiatives and the need for flexibility required to navigate uncertainties.

6.2 | Implications for supply chain resilience literature

The current literature on supply chain resilience primarily focuses on strategies buyers can employ to manage suppliers, aiming to minimize the likelihood and impact of supply disruptions (Tukamuhabwa et al., 2015). Building on the concept of "lock-in" within the BSR literature (Lonsdale, 2001; Narasimhan et al., 2009; Schmitz et al., 2016), this study adopts a novel approach by examining the resilience of cross-border BSRs amid geopolitical conflicts from the supplier's viewpoint. Specifically, we demonstrate that suppliers distinguished by their innovation and commitment to social responsibility exhibit greater resilience in sustaining cross-border buyer–supplier transactions in the current deglobalized environment. This contributes new dimensions to previously identified lock-in factors, such as perceived justice (Narasimhan et al., 2009) and risk management (Schmitz et al., 2016).

The resilience of BSR is clearly beneficial to the supplier, while future research might pivot toward understanding the conditions under which lock-in status yields mutual benefits for both suppliers and buyers. For example, Table 8 shows that innovative U.S. buyers also tend to maintain the relationship with their Chinese buyers amid the trade war, implying the need of these buyers for a stable physical and informational input from their suppliers to sustain innovation amid an uncertain environment. Therefore, scholars could identify specific factors from the perspectives of suppliers (e.g., operating capabilities), buyers (e.g., relational specific investment), and dyadic (e.g., social exchanges) perspectives. This investigation may aim at understanding how to foster a symbiotic cross-border BSR amid uncertain trade environment, enhancing value creation for both parties.

6.3 | Implications for public policy and OM literature

Our study also speaks to the recent call for more studies on the interface between public policy and OM (e.g., Fugate et al., 2019; Helper et al., 2021). Government

policy can be a source of disruption to resource flow in the supply chain, causing substantial disruption (Darby et al., 2020). The context of our research, the U.S.–China trade war, marks a significant shift from traditional globalization narratives toward a new era characterized by deglobalization, propelled by political realism and geopolitical rivalry (Witt, 2019). Our study illuminates how such geopolitical conflicts serve as non-ergodic disruptions with profound and lasting impacts on cross-border BSRs (Hitt et al., 2021). This shift away from an equilibrium-based supply chain management model toward one that necessitates resilient strategies underlines the imperative for a deeper comprehension of how policy uncertainties disrupt supply chains (Charpin et al., 2021; Roscoe et al., 2020).

In addition, local political ties have been traditionally regarded as a strategic asset for firms, facilitating access to political resources and enhancing firm performance (e.g., Sheng et al., 2011). However, our study challenges this conventional view by revealing that local political ties may introduce additional risks in contexts of policy uncertainty. This finding aligns with Lo et al.'s (2014) observation that political connections can exacerbate the adverse impacts of government sanctions on firms, and with Shen et al.'s (2023) conclusion that such ties can impede operational efficiency in less developed markets.

Future researchers can extend the investigations into the impacts of the interplay between firm political factors and various conflict events on firm operations. This exploration could extend to other bilateral trade conflicts with more historical geopolitical tensions (e.g., the Japan–Korea trade war), other types of conflicts such as military conflicts (e.g., the Russo–Ukrainian war in 2022), and different types of government sanctions toward individuals, firms, and countries (e.g., U.S. sanctions against Cuba or U.S. sanctions against some Chinese tech firms).

6.4 | Implications for organizational theories and economics literature

Our approach in theorizing the U.S.–China trade war as a non-ergodic exogenous shock leverages RDT and TCE to understand the nuanced impacts of geopolitical tensions on BSRs. Overall, our study enriches RDT and TCE by integrating the impact of geopolitical conflicts, like trade wars, highlighting how these events reshape transaction costs and resource dependencies across geographical boundaries. By effectively incorporating geopolitical factors into traditional TCE and RDT frameworks, we extend their theoretical reach by adding temporal dynamics into their analyses instead of viewing institutional environments as stable and given.

Specifically, we extend TCE by addressing the concept of "primary uncertainty" as highlighted by Williamson (1985), particularly in the context of geopolitical conflicts (Ciravegna et al., 2023). Our study further engages the dialogs with the dynamic transaction cost framework by emphasizing the evolving role of managerial coordination in contemporary industrial capitalism, as theorized by Langlois (2003b). Moving beyond the traditional TCE perspective, which predominantly focuses on vertical integration as a strategy to manage transaction costs, our research illustrates a strategic pivot of leveraging firm-specific capabilities, such as innovation and social responsibility, for addressing political uncertainty. This approach underscores the dynamic capabilities of firms in sustainable value creation and gain competitive advantages amid uncertain environment (Foss & Foss, 2022).

Furthermore, our application of RDT provides new insights into how interorganizational resource dependencies can be altered during geopolitical conflicts (Jiang et al., 2023). Specifically, in line with RDT's assertion that organizations must navigate complex external demands to secure survival and support (Wry et al., 2013), our research reveals that suppliers can actively employ innovation and socially responsible strategies for managing dependencies of buyers amidst geopolitical uncertainties.

In addition, our findings extend the conventional RDT view that political ties can always benefit firms by helping them manage environmental uncertainty (Hillman et al., 2009). This traditional perspective assumes geopolitical stability, under which political connections are presumed to mitigate external risks. However, our study underscores that political ties may backfire at times of geopolitical conflicts. Specifically, local political ties can significantly increase risks of supplier to a foreign buyer during geopolitical conflicts. This nuanced insight suggests that while political ties can be resourceful, they also have the potential to complicate a firm's external environment, acting as a double-edged sword that necessitates cautious management. By highlighting this complexity, our research introduces a boundary condition to RDT, specifying that the benefits of political ties on firm performance are not guaranteed and depend heavily on the geopolitical context (Sheng et al., 2011).

Our synthesis between RDT and TCE allows us to provide a coherent framework that not only explains the dual nature of political ties but also how these ties, under certain geopolitical pressures, can transform from strategic assets to liabilities, thus increasing transaction costs in the supply chain and triggering shifts in sourcing decisions. This method of theoretical contribution is akin to the approach taken by Miller et al. (2022), who revised property rights theory to suggest that ownership of assets by small entrepreneurs does not always incentivize

optimal behavior, thus shedding light on nuanced aspects of opportunity cost management. Similarly, our integrated model specifies the theoretical boundary conditions under which political ties may detrimentally affect firm performance, offering a temporal dynamic understanding from the perspective of complex geopolitical environments.

Our integration of theories also offers enhancements to the TCE in terms of theory coherence and unification, particularly in understanding how trade wars impact global supply chains—a context not explicitly covered by Langlois' (2003b) "Vanishing Hand" framework. The framework primarily conceptualizes the shift from managerial hierarchies to market-driven transactions without directly addressing the disruptions caused by geopolitical conflicts such as trade wars. By weaving our findings into Langlois' dynamic model, we provide arguments that not only explain how the uncertain trade environment amplifies transaction costs but also how firms can proactively enact to environmental uncertainty by undertaking adjustments in global governance and supply chain structures. Furthermore, our integrated model enhances theoretical coherence by linking the insights from TCE on transaction costs with RDT's focus on external dependencies. This approach provides a clearer understanding of the strategic dynamics at play during geopolitical upheavals and explains why firms may respond differently under various political conditions. This adds to previous theories' limitations in explaining the dynamic interactions within institutional environments.

Moreover, our study makes a pivotal connection to the broader discourse on trade liberalization and protectionism, an area of growing significance in contemporary global economic literature (Fajgelbaum et al., 2020). Though extensive research has been conducted on the impacts and implications of trade liberalization, the phenomenon of trade deliberalization presents a relatively new and complex challenge (Blank et al., 2022). Our findings contribute to this evolving discourse by illustrating the tangible effects of protectionism policies on cross-border BSRs. The U.S.–China trade war serves as a case study in how the shifts toward protectionist policies can disrupt established global supply chains, forcing companies to reassess and reconfigure their international partnerships.

6.5 | Managerial implications

Our findings have essential implications for practice. First, we provide a reference for the suppliers to estimate to what extent their overseas revenue would be affected when geopolitical conflicts occur. Because such conflicts are happening more frequently in today's deglobalized world (Witt, 2019), we recommend that suppliers increase their capabilities to lock in overseas customers in response to the uncertain environment for geopolitical resilience in the new realist global landscape. Our results specifically suggest that suppliers should enhance their innovativeness and CSR performance to differentiate themselves, which can put them in a better position to build a more resilient cross-border buyer–supplier transactional relationship. These capabilities are particularly vital in times when nationalistic sentiments and public opinions in both home and host countries are influenced by geopolitical events, affecting perceptions of legitimacy toward foreign entities (Arikan & Shenkar, 2013; Yiu et al., 2022, 2023).

In addition, we recommend that firms exercise caution in entangling themselves with political ties, especially in times of geopolitical uncertainty. While political connections can provide valuable resources and facilitate access to critical information and support, it is imperative for firms to recognize that these ties also carry inherent risks. The volatile nature of geopolitical environments means that what may offer a competitive advantage today could become a liability tomorrow, potentially exposing firms to regulatory scrutiny, public backlash, or sanction actions by foreign governments. Therefore, firms should conduct thorough risk assessments when leveraging political connections, considering both the immediate benefits and the potential long-term repercussions on their operations and reputation.

For buyers, managers should incorporate an analysis of dependency on suppliers into their geopolitical risk assessment and supply chain reconfiguration planning. By understanding the trade-offs between supplier capabilities (e.g., innovation and CSR) and the flexibility to adjust the supply chain, buyers should aim to develop strategies that mitigate these dependencies and enhance flexibility in the face of geopolitical uncertainties. This comprehensive assessment will enable more informed decision-making and strategic sourcing adaptations to effectively navigate international risks.

Furthermore, despite media reports that multinational firms encountered difficulties when moving sourcing away from China (The Economist, 2022), the Chinese government should not underestimate the shock to the Chinese supplier caused by the trade war and potential geopolitical conflicts. Our findings showed a reduction in transaction value by more than 18.42% for Chinese suppliers affected by the trade war. This scale-back of the transactions can have significant negative impacts on the Chinese economy because exports are a major driver of China's GDP. The government should help local suppliers improve their innovativeness and CSR, which

prepares them to maintain overseas customers amid the politicized international trade environment.

The magnitude of the trade war's effect on U.S. buyer–Chinese supplier dyads (−18.42%) is twice that of the effect on Chinese buyer–U.S. supplier dyads (−9.09%). This disparity is likely due to the asymmetrical tariffs introduced by the U.S. and China. In 2018, the U.S. imposed tariffs on over 250 billion dollars' worth of Chinese products, compared with the tariffs imposed by China on over 110 billion dollars' worth of U.S. products. This difference could have made the trade war have a more significant impact on Chinese suppliers, who rely heavily on the U.S. market for exports.

6.6 | Limitations

This study is subject to some limitations that can be addressed in future research. First, this study was focused on the listed Chinese suppliers, who can more easily obtain resources from the financial market. Thus, these firms can better withstand the shock of reduced overseas sales. However, Chinese small and medium enterprises (SMEs) also rely heavily on overseas sales, for which they may have more limited resources to cope with the shock. Future researchers may focus on how SMEs can better manage geopolitical risks. In addition, we found that U.S. buyers reduced purchasing from Chinese suppliers during the trade war, but we did not investigate whether these purchases were relocated to other developing countries or reshored back to the U.S. or third countries. Future researchers may investigate the supply chain reconfiguration of the buyers amid geopolitical conflicts. Finally, we attempted our best to increase the data comprehensiveness by using multiple supply chain databases of Bloomberg, Factset, and CSMAR. However, these databases do not provide an exhaustive identification of BSRs (Culot et al., 2023). Future researchers may use more comprehensive databases, such as the Longitudinal Firm Trade Transactions Database, for analysis (e.g., Handley et al., 2020).

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ENDNOTES

[1] https://ustr.gov/sites/default/files/enforcement/301Investigations/FRN301.pdf [accessed on January 4, 2023].

[2] https://ustr.gov/sites/default/files/2018-13248.pdf [accessed on January 4, 2023].

[3] https://ustr.gov/issue-areas/enforcement/section-301-investigations/section-301-china/200-billion-trade-action [accessed on January 4, 2023].

[4] Data for supplier$_k$ were collected from Compustat Global.

[5] Range of SIC refers to: 0100–0999 Agriculture, Forestry, and Fishing; 1000–1499 Mining; 1500–1799 Construction; 2000–3999 Manufacturing; 4000–4999 Transportation, Communications, Electric, Gas, and Sanitary Service; 5000–5199 Wholesale Trade; 5200–5999 Retail Trade; 6000–6799 Finance, Insurance, and Real Estate; 7000–8999 Services; 9100–9729 Public Administration.

[6] The effect size is calculated based on the following formula (Ma et al., 2023): Effect size $= v_i{}^*\beta_i/(\sum x_c\beta_c + \text{constant})$ where v_i is the variance of the moderating variable, β_i is the regression coefficient of the moderating variable; X_c is the mean value of all variables in the regression and β_c is the regression coefficients of variables, and constant means the value of constant in the regression model.

[7] The detailed good list can be seen: http://gss.mof.gov.cn/gzdt/zhengcefabu/201806/t20180616_2930325.htm; http://gss.mof.gov.cn/gzdt/zhengcefabu/201808/t20180808_2983769.htm; http://gss.mof.gov.cn/gzdt/zhengcefabu/201809/t20180918_3022592.htm.

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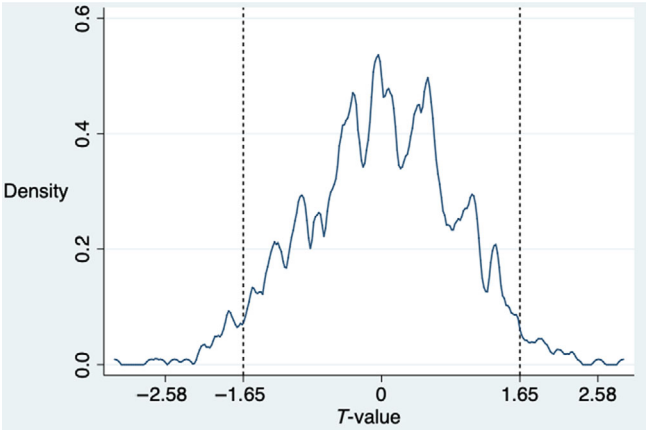
APPENDIX 1: Variables and measures.

Variables	Measures	References	Data source
Abnormal transactional value (%)	Abnormal transactional value$_{ij}$ = (transactional value$_{ijpost}$ − transactional value$_{ijpre}$) − (transactional value$_{ikpost}$ − transactional value$_{ikpre}$)	Hui et al. (2012); Pagell et al. (2019)	Bloomberg SPLC, FactSet Revere, CSMAR Supply Chain Database and Compustat
Innovation capability	The natural logarithm of the number of suppliers' invention patents granted	Artz et al. (2010); Stuart and Podolny (1996)	CSMAR
CSR performance	The aggregated indicator, which is based on the weighted average of scores including responsibility in the scopes of shareholder, employee, supplier and consumer, environment, and social	Gong et al. (2021); Li et al. (2021)	Hexun social responsibility data
Local political ties	The ratio of suppliers' ownership that ultimately belongs to the home state entity from different levels of the home government, state-owned asset investment and management bureaus	Tihanyi et al. (2019); Zhou et al. (2017)	CSMAR
Buyer's size	The natural logarithm of buyers' total assets	Brown et al. (2009); Doney and Cannon (1997)	Compustat
Buyer's profitability	Return on assets of buyers.	Choi and Krause (2006); Saeed et al. (2005)	Compustat
Buyer's patents	The natural logarithm of the total number of patents granted to buyers.	Zhou et al. (2017)	Global corporate patent Datase
Buyer's alternative suppliers	The total number of suppliers that a focal buyer has.	Hoetker et al. (2007)	Bloomberg SPLC, FactSet Revere, CSMAR Supply Chain Database
Supplier's size	The natural logarithm of suppliers' total assets	Brown et al. (2009); Doney and Cannon (1997)	CSMAR
Supplier's profitability	Return on assets of suppliers.	Choi and Krause (2006); Saeed et al. (2005)	CSMAR
Supplier's alternative buyers	The total number of buyers that a focal supplier has.	Hoetker et al. (2007)	Bloomberg SPLC, FactSet Revere, CSMAR Supply Chain Database
Market intermediary development	Sub-index of Chinese provinces, introduced by NERI	Banalieva et al. (2015); Yiu et al. (2022)	NERI
Exchange history	The time of cooperation (transactions) between the focal buyer and supplier	Hedenstierna et al. (2019)	Bloomberg SPLC, FactSet Revere, CSMAR Supply Chain Database

APPENDIX 2: Distribution of *T*-value for Placebo test.

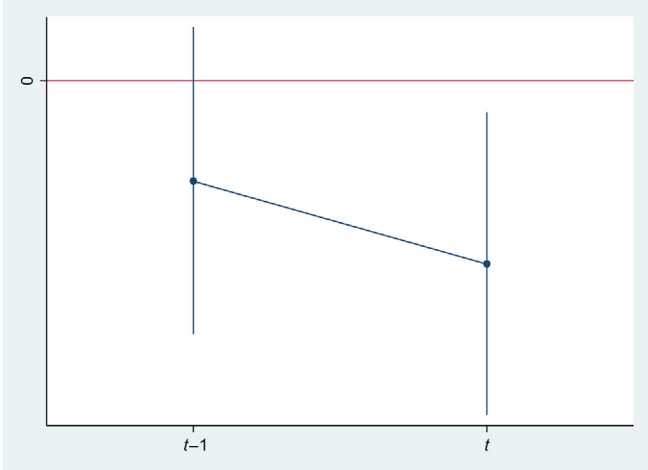


APPENDIX 3: Placebo test of abnormal transactional value.

Pre-event	Post-event	*N*	Mean (%)	*p*-value (*t*-test)	Percentage	*p*-value (sign-test)	Median (%)	*p*-value (WSR-test)
2015–2016 average	2017–2018 average	263	−0.06	.44	49.81%	.66	0.00	.30
2015–2016 average	2017	184	−0.00	.90	46.74%	.60	0.00	.92
2015–2016 average	2018	189	−0.11	.16	50.79%	.33	−0.00	.18

Note: Percentage indicates the percentage of negative abnormal transaction values; the *N*s in the second and third rows are smaller because the first row use the average value of year 2017 and 2018, and use that single value for the calculation if only one value was available (in 2017 or 2018) (Pagell et al., 2019); numbers are rounded to two decimal places.

APPENDIX 4: Parallel trends test.



The *y*-axis represents the estimated coefficients for the difference in dependent variables between treated dyads and control dyads. The dot lines show 95% confidence intervals for these coefficients. $t-1$ represents the pre-trade war period which includes the year of 2016 and 2017; t represents the post-trade war period which includes the year of 2018 and 2019.

APPENDIX 5: Difference-in-difference tests.

Variables	(1) Transactional value (%)	(2)	(3)
Post		−0.11	−0.11
		(0.08)	(0.08)
China suppliers		0.11	0.11
		(0.23)	(0.23)
Post* China suppliers			−0.14^{+}
			(0.08)
Buyer size	−0.13*	−0.13*	−0.13*
	(0.07)	(0.07)	(0.07)
Buyer profitability	0.35	0.35	0.34
	(0.84)	(0.84)	(0.84)
Buyer's alternative suppliers	−0.00	−0.00	−0.00
	(0.00)	(0.00)	(0.00)
Buyer's patent	−0.02	−0.02	−0.02
	(0.07)	(0.07)	(0.07)
Exchange history	−0.29*	−0.29*	−0.29*
	(0.13)	(0.13)	(0.13)
Supplier size	0.08	0.08	0.08
	(0.06)	(0.06)	(0.06)
Supplier profitability	−0.03	−0.04	−0.04
	(0.04)	(0.04)	(0.04)
Supplier's alternative buyers	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)
Industry and year fixed effect	Included	Included	Included
Constant	2.91**	2.84**	2.84**
	(0.94)	(0.94)	(0.94)
R^2 (%)	2.76	2.80	2.82
N	1372	1372	1372
Wald-chi^2	20.91	21.84	24.04

Note: Standard errors in parentheses; $^{+}p < .10$, $*p < .05$, $**p < .01$; numbers are rounded to two decimal places.

APPENDIX 6: Robustness test using alternative measurement of innovative capability.

Variables	(1)	(2)	(3)	(4)	(5)
	Abnormal transactional value (%)				
Buyer size	0.05	0.05	0.05	0.05	0.06
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Buyer profitability	−6.90*	−6.99**	−6.45*	−6.99**	−6.54*
	(2.69)	(2.68)	(2.69)	(2.67)	(2.65)
Buyer's alternative suppliers	−0.00	−0.00	−0.00	−0.00	−0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Buyer's patent	0.11*	0.10^{+}	0.11*	0.11*	0.10^{+}
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Exchange history	−0.01	−0.01	−0.00	−0.01	−0.01
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Supplier size	0.01	0.00	0.00	0.04	0.02
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Supplier profitability	−1.61	−1.61	−1.79	−1.85	−2.10
	(1.39)	(1.38)	(1.39)	(1.38)	(1.37)
Supplier's alternative buyers	0.00	0.00	0.00	−0.00	−0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Market intermediary development	−0.33	−0.29	−0.39	−0.27	−0.29
	(0.41)	(0.41)	(0.41)	(0.41)	(0.41)
Innovative capability		0.10^{+}			0.10^{+}
		(0.06)			(0.06)
CSR performance			0.01^{+}		0.01*
			(0.01)		(0.01)
Local political ties				−0.64*	−0.72*
				(0.31)	(0.31)
Constant	2.94	2.47	3.38	1.92	1.85
	(5.01)	(4.99)	(4.99)	(4.99)	(4.95)
R^2 (%)	33.66	34.51	34.52	34.97	37.01
N	343	343	343	343	343
F-value	0.89	0.93	0.92	0.93	0.99
Δadjusted R^2 (%)	-	0.86	0.86	1.59	3.88

Note: Standard errors in parentheses; $^{+}p < .10$, $*p < .05$, $**p < .01$; numbers are rounded to two decimal places; Δadjusted R^2 compared with Model 1.

APPENDIX 7: Robustness test using alternative measurement of CSR performance.

Variables	(1)	(2)	(3)	(4)	(5)
	Abnormal transactional value (%)				
Buyer size	0.05	0.04	0.05	0.05	0.05
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Buyer profitability	−6.90*	−7.56**	−7.21**	−6.99**	−7.79**
	(2.69)	(2.69)	(2.67)	(2.67)	(2.65)
Buyer's alternative suppliers	−0.00	−0.00	−0.00	−0.00	−0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Buyer's patent	0.11*	0.10^{+}	0.11*	0.11*	0.10^{+}
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Exchange history	−0.01	−0.02	−0.02	−0.01	−0.03
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Supplier size	0.01	0.00	−0.01	0.04	0.02
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Supplier profitability	−1.61	−1.52	−1.54	−1.85	−1.77
	(1.39)	(1.38)	(1.38)	(1.38)	(1.37)
Supplier's alternative buyers	0.00	−0.00	0.00	−0.00	−0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Market intermediary development	−0.33	−0.28	−0.28	−0.27	−0.17
	(0.41)	(0.41)	(0.41)	(0.41)	(0.40)
Innovative capability		0.13*			0.10
		(0.07)			(0.07)
CSR performance			0.10*		0.10^{+}
			(0.05)		(0.05)
Local political ties				−0.64*	−0.77*
				(0.31)	(0.31)
Constant	2.94	2.61	2.59	1.92	1.14
	(5.01)	(4.97)	(4.98)	(4.99)	(4.93)
R^2 (%)	33.66	34.90	34.86	34.97	37.33
N	343	343	343	343	343
F-value	0.89	0.93	0.93	0.93	1.01
Δadjusted R^2 (%)	-	1.47	1.40	1.59	4.38

Note: Standard errors in parentheses; $^{+}p < .10$, $*p < .05$, $**p < .01$; numbers are rounded to two decimal places; Δadjusted R^2 compared with Model 1.

APPENDIX 8: Robustness test using alternative measurement of political ties.

Variables	(1)	(2)	(3)	(4)	(5)
	Abnormal transactional value (%)				
Buyer size	0.05	0.04	0.05	0.05	0.05
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Buyer profitability	−6.90*	−7.56**	−6.45*	−7.03**	−7.16**
	(2.69)	(2.69)	(2.69)	(2.67)	(2.67)
Buyer's alternative suppliers	−0.00	−0.00	−0.00	−0.00	−0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Buyer's patent	0.11*	0.10^{+}	0.11*	0.11*	0.10^{+}
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Exchange history	−0.01	−0.02	−0.00	−0.01	−0.01
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Supplier size	0.01	0.00	0.00	0.04	0.02
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Supplier profitability	−1.61	−1.52	−1.79	−1.84	−1.97
	(1.39)	(1.38)	(1.39)	(1.39)	(1.37)
Supplier's alternative buyers	0.00	−0.00	0.00	−0.00	−0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Market intermediary development	−0.33	−0.28	−0.39	−0.30	−0.31
	(0.41)	(0.41)	(0.41)	(0.41)	(0.40)
Innovative capability		0.13*			0.12^{+}
		(0.07)			(0.06)
CSR performance			0.01^{+}		0.01^{+}
			(0.01)		(0.01)
Local political ties				−0.50*	−0.56*
				(0.25)	(0.25)
Constant	2.94	2.61	3.38	2.32	2.42
	(5.01)	(4.97)	(4.99)	(4.98)	(4.93)
R^2 (%)	33.66	34.90	34.52	34.86	37.09
N	343	343	343	343	343
F-value	0.89	0.93	0.92	0.93	1.00
Δadjusted R^2 (%)	-	1.47	0.86	1.41	4.01

Note: Standard errors in parentheses; $^{+}p < .10$, $*p < .05$, $**p < .01$; numbers are rounded to two decimal places; Δadjusted R^2 compared with Model 1.

APPENDIX 9: Robustness test after dropping the same Chinese suppliers.

	From	To	*N*	Mean (%)	*T*-value (*t*-test)	Percentage	*p*-value (sign-test)	Median (%)	*p*-value (WSR-test)
1	Pre-trade war period	Post-trade war period	215	−0.14	.07	59.53%	.01	−0.01	.22
2	Pre-trade war period	Year 2018	185	−0.14	.06	60.00%	.01	−0.01	.14
3	Pre-trade war period	Year 2019	146	−0.20	.09	56.16%	.16	−0.01	.47

Note: Percentage indicates the percentage of negative abnormal transaction values; the *N*s in the second and third rows are smaller because the first row use the average value of year 2018 and 2019, and use that single value for the calculation if only one value was available (in 2018 or 2019) (Pagell et al., 2019).

APPENDIX 10: Robustness test after dropping same Chinese suppliers.

Variables	(1)	(2)	(3)	(4)	(5)
	Abnormal transactional value (%)				
Buyer size	0.10	0.09	0.10^{+}	0.10	0.10
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
+Buyer profitability	−4.80	−6.98^{+}	−4.71	−4.67	−6.38^{+}
	(3.51)	(3.57)	(3.44)	(3.42)	(3.42)
Buyer's alternative suppliers	−0.00	−0.00	−0.00	−0.00	−0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Buyer's patent	0.06	0.02	0.04	0.07	0.02
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Exchange history	−0.03	−0.03	−0.02	−0.03	−0.02
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Supplier size	0.04	0.00	0.01	0.08	0.03
	(0.05)	(0.05)	(0.05)	(0.05)	(0.06)
Supplier profitability	−0.02	−0.01	−0.02	−0.02	−0.02
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Supplier's alternative buyers	0.00	0.01	0.00	0.00	0.01
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Market intermediary development	−0.07	0.33	−0.16	−0.07	0.17
	(0.57)	(0.58)	(0.56)	(0.55)	(0.56)
Innovative capability		0.18*			0.15^{+}
		(0.08)			(0.08)
CSR performance			0.01*		0.01*
			(0.01)		(0.01)
Home political ties				−0.72*	−0.74*
				(0.30)	(0.29)
Constant	−0.80	−4.78	−0.01	−1.28	−3.80
	(6.92)	(7.01)	(6.80)	(6.75)	(6.73)
R^2 (%)	63.81	65.71	65.53	66.00	69.27
N	215	215	215	215	215
F-value	1.30	1.39	1.38	1.41	1.57
Δadjusted R^2 (%)	-	3.56	3.14	4.25	10.36

Note: Standard errors in parentheses; $^{+}p < .10$, $*p < .05$, $**p < .01$; numbers are rounded to two decimal places; Δadjusted R^2 compared with Model 1.

APPENDIX 11: Robustness test using alternative standards of same industry.

	From	To	*N*	Mean (%)	*p*-value (*t*-test)	Percentage	*p*-value (sign-test)	Median	*p*-value (WSR-test)
1	Pre-trade war period	Post-trade war period	112	−0.19	.03	62.50%	.01	−0.02	.01
2	Pre-trade war period	Year 2018	94	−0.19	.00	62.77%	.02	−0.02	.00
3	Pre-trade war period	Year 2019	77	−0.21	.11	59.74%	.11	−0.02	.11

Note: Percentage indicates the percentage of negative abnormal transaction values; the *N*s in the second and third rows are smaller because the first row use the average value of year 2018 and 2019, and use that single value for the calculation if only one value was available (in 2018 or 2019) (Pagell et al., 2019); numbers are rounded to two decimal places.

APPENDIX 12: Robustness test using alternative standards of same industry.

Variables	(1) Abnormal transactional value (%)	(2)	(3)	(4)	(5)
Buyer size	0.09	0.07	0.11^{+}	0.09	0.10^{+}
	(0.06)	(0.06)	(0.06)	(0.06)	(0.05)
Buyer profitability	−3.65	−6.00	−2.13	−2.18	−3.14
	(3.96)	(3.84)	(3.83)	(3.81)	(3.48)
Buyer's alternative suppliers	0.00	−0.00	−0.00	0.00	−0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Buyer's patent	0.10	0.09	0.12^{+}	0.12^{+}	0.13*
	(0.07)	(0.07)	(0.07)	(0.07)	(0.06)
Exchange history	0.01	−0.01	0.03	−0.01	−0.02
	(0.07)	(0.07)	(0.07)	(0.07)	(0.06)
Supplier size	−0.02	−0.05	−0.01	0.02	0.01
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Supplier profitability	−0.04	−0.04^{+}	−0.02	−0.04	−0.03
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Supplier's alternative buyers	−0.01	−0.01	−0.00	−0.01	−0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Market intermediary development	1.25	1.07	1.13	1.34^{+}	1.05
	(0.82)	(0.78)	(0.78)	(0.78)	(0.69)
Innovative capability		0.22*			0.22**
		(0.08)			(0.08)
CSR performance			0.02*		0.02*
			(0.01)		(0.01)
Home political ties				−1.09*	−1.13**
				(0.44)	(0.39)
Constant	−15.69^{+}	−12.43	−15.93^{+}	−17.48^{+}	−14.49^{+}
	(9.27)	(8.83)	(8.84)	(8.84)	(7.84)
R^2 (%)	62.34	67.22	66.46	66.69	75.42
N	112	112	112	112	112
F-value	1.22	1.45	1.40	1.42	2.01
Δadjusted R^2 (%)	-	9.84	8.03	8.57	26.93

Note: Standard errors in parentheses; $^{+}p < .10$, $*p < .05$, $**p < .01$; numbers are rounded to two decimal places; Δadjusted R^2 compared with Model 1.

APPENDIX 13: Robustness test using different matching methods.

	From	To	*N*	Mean (%)	*p*-value (*t*-test)	Percentage	*p*-value (sign-test)	Median (%)	*p*-value (WSR-test)
1	Pre-trade war period	Post-trade war period	343	−0.17	.00	54.52%	.11	−0.01	.36
2	Pre-trade war period	Year 2018	291	−0.16	.00	55.33%	.08	−0.01	.30
3	Pre-trade war period	Year 2019	239	−0.18	.04	53.14%	.37	−0.01	.65

Note: Percentage indicates the percentage of negative abnormal transaction values; the *N*s in the second and third rows are smaller because the first row use the average value of year 2018 and 2019, and use that single value for the calculation if only one value was available (in 2018 or 2019) (Pagell et al., 2019); numbers are rounded to two decimal places.

APPENDIX 14: Robustness test using different matching methods.

Variables	(1) Abnormal transactional value (%)	(2)	(3)	(4)	(5)
Buyer size	0.10*	0.09*	0.10**	0.10**	0.10**
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Buyer profitability	−6.27**	−6.81**	−5.91**	−6.37**	−6.50**
	(2.09)	(2.10)	(2.09)	(2.07)	(2.07)
Buyer's alternative suppliers	−0.00	−0.00	−0.00	−0.00	−0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Buyer's patent	0.06	0.05	0.06	0.06	0.05
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Exchange history	−0.03	−0.04	−0.03	−0.04	−0.04
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Supplier size	0.01	0.00	0.00	0.04	0.03
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Supplier profitability	−0.01	−0.01	−0.01	−0.02	−0.02
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Supplier's alternative buyers	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Market intermediary development	−0.12	−0.08	−0.17	−0.07	−0.06
	(0.32)	(0.32)	(0.32)	(0.32)	(0.32)
Innovative capability		0.10^{+}			0.09^{+}
		(0.05)			(0.05)
CSR performance			0.01^{+}		0.01*
			(0.00)		(0.00)
Home political ties				−0.59*	−0.67**
				(0.24)	(0.24)
Constant	−0.15	−0.45	0.18	−1.12	−1.17
	(3.92)	(3.90)	(3.91)	(3.90)	(3.85)
R^2 (%)	39.32	40.33	40.14	40.97	43.10
N	343	343	343	343	343
F-value	1.14	1.17	1.16	1.20	1.28
Δadjusted R^2 (%)	-	1.16	0.86	2.17	4.69

Note: Standard errors in parentheses; $^{+}$ $p < .10$, *$p < .05$, **$p < .01$; numbers are rounded to two decimal places; Δadjusted R^2 compared with Model 1.

APPENDIX 15: Abnormal transactional value: 474 sample.

	From	To	*N*	Mean (%)	*p*-value (*t*-test)	Percentage	*p*-value (sign-test)	Median (%)	*p*-value (WSR-test)
1	Pre-trade war period	Post-trade war period	474	−0.18	.03	60.76%	.00	−0.01	.15
2	Pre-trade war period	Year 2018	474	−0.15	.00	57.59%	.00	−0.01	.10
3	Pre-trade war period	Year 2019	474	−0.22	.00	60.97%	.00	−0.01	.03

Note: Numbers are rounded to two decimal places.

APPENDIX 16: Robustness test using different matching methods: 474 sample.

Variables	(1) Abnormal transactional value (%)	(2)	(3)	(4)	(5)
Buyer size	2.02**	2.04**	2.02**	1.99**	1.98**
	(0.54)	(0.54)	(0.54)	(0.54)	(0.53)
Buyer profitability	−5.37**	−5.47**	−5.37**	−5.36**	−5.47**
	(1.38)	(1.38)	(1.38)	(1.38)	(1.36)
Buyer's alternative suppliers	−0.00	−0.00	−0.00	−0.00	−0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Buyer's patent	0.05	0.05	0.06	0.05	0.05
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Exchange history	−0.11	−0.12	−0.11	−0.13	−0.15
	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)
Supplier size	−0.04	−0.06	−0.05	−0.02	−0.04
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Supplier profitability	0.13	0.39	−1.52	−0.65	−3.26
	(2.41)	(2.41)	(2.57)	(2.44)	(2.66)
Supplier's alternative buyers	0.01	0.00	0.01	0.00	0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Market intermediary development	0.07	0.04	0.05	0.07	0.03
	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)
Innovative capability		0.12^{+}			0.12^{+}
		(0.07)			(0.07)
CSR performance			0.02^{+}		0.02*
			(0.01)		(0.01)
Home political ties				−0.53^{+}	−0.84**
				(0.29)	(0.30)
Constant	−37.02**	−36.21**	−36.76**	−36.91**	−35.31**
	(10.16)	(10.13)	(10.13)	(10.13)	(10.01)
R^2 (%)	54.38	54.79	54.83	54.86	56.24
N	474	474	474	474	474
F-value	2.49	2.51	2.51	2.52	2.61
Δadjusted R^2 (%)	-	0.40	0.45	0.50	2.13

Note: Standard errors in parentheses; $^{+}p < .10$, $*p < .05$, $**p < .01$; numbers are rounded to two decimal places; Δadjusted R^2 compared with Model 1.

APPENDIX 17: Tests of matching quality (buyer characteristics).

		ROA	Total assets (natural logarithm value)	Total assets (original value in million)	Country	Buyers and industry
Suppliers of the treated dyads	Mean	0.03	20.97	23,076.71	China	Same
	Max value	0.23	25.39	4001,620.00		
	Min value	−0.36	15.83	7.53		
Suppliers of the control dyads	Mean	0.03	21.27	20,762.03	Countries not in trade disputes with the United States	
	Max value	0.22	26.76	911,906.31		
	Min value	−0.24	13.40	0.66		
Difference *p*		.40	.18	.88	/	/

Note: Numbers are rounded to two decimal places.

APPENDIX 18: Distribution of the location of buyer$_k$.

Country	Count	Ratio
Japan	62	22.22%
Province of Taiwan	51	18.23%
Germany	42	15.05%
Korea	33	11.83%

APPENDIX 19: Abnormal transactional value.

	From	To	*N*	Mean (%)	*p*-value (*t*-test)	Percentage	*p*-value (sign-test)	Median (%)	*p*-value (WSR-test)
1	Pre-trade war period	Post-trade war period	279	−0.07	.17	53.05%	.31	−0.00	.66
2	Pre-trade war period	Year 2018	240	−0.05	.51	48.33%	.70	0.01	.09
3	Pre-trade war period	Year 2019	233	−0.14	.06	53.65%	.33	−0.00	.57

Note: Percentage indicates the percentage of negative abnormal transaction values; the *N*s in the second and third rows are smaller because the first row use the average value of year 2018 and 2019, and use that single value for the calculation if only one value was available (in 2018 or 2019) (Pagell et al., 2019); numbers are rounded to two decimal places.