Industrial Marketing Management 117 (2024) 253–274

Contents lists available at ScienceDirect

Industrial Marketing Management

journal homepage: www.elsevier.com/locate/indmarman

B2B marketing for industrial value addition: How do geopolitical tension and economic policy uncertainty affect sustainable development?

Riad Shams [a,*], Kazi Sohag [b], Md. Monirul Islam [b,c], Demetris Vrontis [d,e], Masaaki Kotabe [f], V. Kumar [g,h,i]

[a] Newcastle Business School, Northumbria University, UK
[b] Graduate School of Economics and Management, Ural Federal University, Yekaterinburg, Russia
[c] Bangladesh Institute of Governance and Management (BIGM), University of Dhaka (Affiliated), Bangladesh
[d] Department of Management, School of Business, University of Nicosia, Nicosia, Cyprus
[e] Department of Management Studies, Adnan Kassar School of Business, Lebanese American University, Beirut, Lebanon
[f] Waseda University, Japan and University of Hawaii at Manoa, USA
[g] Professor of Marketing, and Goodman Academic-Industry Partnership Professor, Goodman School of Business, Brock University, St Catharines, ON, Canada
[h] Distinguished Fellow, WE School, India
[i] Chang Jiang Scholar, HUST, China

ARTICLE INFO

JEL classifications:
B17
M21
M31

Keywords:
B2B marketing
B2B disruptions
Industrial value-added
Geopolitical tension
Economic policy uncertainty
Quantiles via moments
Sustainable marketing
Sustainable development

ABSTRACT

Geopolitical and economic uncertainties lead to growing volatility by lowering credit flows (allocations and disbursements), resulting in a sharp plunge in industrial and marketing activities. Despite this, studies on how business to business (B2B) marketing disruptions caused by geopolitical tension and economic policy uncertainty impede industrial value creation and sustainable development, are scarce. We examine the influence of geopolitical tension and economic policy uncertainty on sustainable development through the channel of B2B marketing in the case of group of 20 (G20), group of 7 (G7) and Brazil, Russia, India, China, and South Africa (BRICS) nations over 1990–2019. We utilize the Quantiles via Moments approach to analyze panel time series data due to its potential to deal with country- and region-specific heterogeneity and non-linear relationships. Our findings disclose that geopolitical tensions have a monotonic negative effect on industrial value-added triggered by B2B marketing in the BRICS countries. Contrarily, such tensions have no significant influence on industrial value-added and sustainable development in the G20 and G7 nations. Besides, industrial value-addition (foreign and domestic) augmented by B2B marketing positively affects sustainable development. Also, the effect of economic policy uncertainty on industrial value-added and sustainable development is monotonically favorable. In contrast, economic policy uncertainty-augmented industrial value-added adversely affects sustainable development steadily. Briefly, the empirical outcomes unveil significant economic implications, delineating that B2B firms are confronted with many challenges resulting from the vagaries of geopolitical and economic policy uncertainty soliciting disruption in their sustainable marketing operations.

1. Introduction

The efficacy of Business-to-Business (B2B) marketing transcends beyond the conventional boundaries of profit generation, as it plays a crucial role in promoting the "better marketing for a better world" ideology (Chandy, Johar, Moorman, & Roberts, 2021) that harmonizes with the seemingly elusive issue of sustainable development (Voola, Bandyopadhyay, Voola, Ray, & Carlson, 2022). In embracing accessible and inclusive B2B marketing approaches, firms can forge ahead by fostering sustainable production and consumption of goods and services that ultimately generate job opportunities for people (Voola et al., 2022), establish profit-generating partnership-network marketing (Tsao, Raj, & Yu, 2019), and facilitate responsible service offerings that effectively preserve the earth's ecosystem (Olsen, Slotegraaf, & Chandukala, 2014). Thus, in consideration of the *triple bottom line* - prioritizing *people, profit,* and *the planet* - the fundamentals of sustainability-

* Corresponding author.
E-mail addresses: riad.shams@northumbria.ac.uk (R. Shams), ksokhag@urfu.ru (K. Sohag), mdmonirul.islam@urfu.ru (Md.M. Islam), vrontis.d@unic.ac.cy (D. Vrontis), masaaki.kotabe@aoni.waseda.jp (M. Kotabe), vk@brocku.ca (V. Kumar).

https://doi.org/10.1016/j.indmarman.2024.01.002
Received 14 January 2023; Received in revised form 10 December 2023; Accepted 1 January 2024
Available online 18 January 2024

based parameters in B2B marketing are indispensable in global industrial development processes.

Moreover, B2B marketing approaches unlock pathways that enrich the scale of industrial value-added, paving the way for enhanced firm-level production and marketing capacity. Essentially, firms can leverage a plethora of B2B resources including marketing knowledge and strategies (Bratti & Felice, 2012), technology transfer and refinement (Pham, Le Monkhouse, & Barnes, 2017), as well as dynamic marketing capabilities (Hoque, Nath, Ahammad, Tzokas, & Yip, 2022). Unfortunately, B2B marketing practices are vulnerable to disruptions triggered by geopolitical and economic policy uncertainties, along with institutional disparities (Ju, Murray, Kotabe and Gao, 2011). This perilous concern further hindered B2C marketing endeavors by influencing the purchasing intentions of both individual consumers and end-users (Wichmann, Uppal, Sharma, & Dekimpe, 2022). This can abruptly halt the supply of materials, goods, and services produced by these enterprises (Craighead, Blackhurst, Rungtusanatham, & Handfield, 2007), leading to ineffective knowledge management processes that are required to stimulate industrial value-added and sustainable development (Martin, Javalgi, & Ciravegna, 2020). In light of this, there is a need for a comprehensive study to explore how disruptions in B2B relationships can affect the value-added of marketing-driven industries and contribute to sustainable development, particularly in global influential blocs such as the G20, G7, and BRICS.

Our motivation to undertake this study emerges from multiple compelling reasons surfacing in business and marketing scholarship. First, prominent scholars, including Bolton (2021), Chandy et al. (2021), Voola et al. (2022), have been at the forefront of a paradigm shift that advocates broadening the purpose of business beyond profit maximization to encompass the pursuit of sustainable development outcomes. Furthermore, these scholars posit that both national governments and international organizations have extended explicit invitations to firms to adopt proactive stances towards social issues and embrace sustainable development practices. The United Nations amplifies these voices by asserting that "investing in sustainable development for all people for a healthy planet is both ethical and sensible" (UNCC, 2019). However, while corporate marketing strategies are increasingly oriented towards sustainable development, practically not a single study examines the B2B firms' marketing potentials that can propel sustainable economic, social, and environmental development. Therefore, undertaking a research investigation to bridge this gap becomes relevant and important.

Second, B2B marketing is critical to adding value to industries across various countries. However, literature reveals an acute shortage of research investigating the disruption of B2B marketing-driven industrial value resulting from geopolitical risks and economic policy uncertainty. Despite the presence of quasi-relevant studies highlighting marketing-related disruptions in supply chains since 2000 (Craighead et al., 2007; Fiksel et al., 2015; Sheffi & Rice Jr, 2005), an examination of the scale and impact of disruptions on B2B businesses in recent decades is critical (Pedersen, Ritter, & Di Benedetto, 2020). While some studies have focused on the tangible impact of B2B marketing on market operations, they have largely neglected to consider macro-environmental disruptions that inhibit the movement of goods and services within the B2B marketing sphere (Christensen, 1997; Ritter & Pedersen, 2020). However, these earlier studies have been primarily concerned with managing B2B disruptions and have yet to examine how macro-environmental changes, such as geopolitical conflicts and economic policy uncertainty, disrupt B2B suppliers and customers regarding their ability to contribute value to global industrial hubs.

Third, the B2B marketing-induced industrial value-added scenario of developed and developing economies blocs, such as G20, G7, and BRICS, has recently drawn significant attention to the scholarly landscape (see Appendix 1). In particular, the G20 countries account for roughly 85% of the global GDP and 75% of global trade, with two-thirds of all outgoing international investment flows emanating from this economic superpower. In 2018, this G20 bloc scrutinized in meticulous detail some 47 million offshore accounts, which amounted to an impressively combined value of approximately US$5.6 trillion. Furthermore, the World Trade Organization's Trade Facilitation Agreement (TFA) aims to reduce trade costs for countries following the G20's lead, resulting in a potential reduction of 14% to 18%. Thus, this strategic trade-cost-reduction model is critical in expanding B2B marketing operations within this global power bloc (OECD, 2019). The G7 countries, on the other hand, constitute the world's most prominent advanced economies bloc, according to IMF declarations. As of 2020, the G7 economies account for over half of the world's net assets (totaling over $200 trillion) and 32% to 46% of the global gross domestic product (GDP). Although this group of countries operates as a political alliance, their economic activities are intimately connected, providing diverse business opportunities for industrial development (IMF, 2020). Finally, the BRICS countries boast significant business potential on the global stage, with this international forum accounting for 23% of the world's economy, 18% of goods trade, and 25% of foreign investment. This group has emerged as a critical industrial and marketing force within the global economy (Xinhua News, 2022).

Based on our motivations mentioned above relating to B2B marketing literature, we seek to investigate the impact of geopolitical risks and economic policy uncertainty on the potential of B2B marketing, as mirrored by foreign and domestic value added to industries and sustainable development within the dominant economic blocs of the world, namely G20, G7, and BRICS over the period 1990–2019. To capture the complexity of these global blocs, we employ a novel econometric tool, the quantile via moments approach, to analyze its panel data structure, characterized by solid country and region-based heterogeneity. Our analysis reveals intriguing results that while geopolitical risks have a negative effect on the industrial value-added implied by B2B marketing and sustainable development in the BRICS countries, it does not influence industrial value-added or sustainable development in G20 and G7 countries. Indeed, our findings indicate that B2B marketing-laden industrial value-added positively affects sustainable development, while economic policy uncertainty positively influences industrial value-added and sustainable development. However, a steady increase in economic policy uncertainty-augmented industrial value-added has an adverse effect on sustainable development across all these global blocs.

Our research promises a contribution in three primary areas. First, we contribute to the sustainable development literature concerning the B2B marketing approach-induced sustainable development in the context of geopolitical risks and policy uncertainty. Given the growing need for the B2B marketing role in sustainability and the fact that B2B marketing researchers still need to pay more attention to the sustainability paradigm (Voola et al., 2022), our research aims to address this need. For example, while some scholars highlight that B2B companies should be proactive and innovative in helping achieve the SDGs since they have a significant role, B2B scholars emphasize sustainability issues relating to brand value (Czinkota, Kaufmann, & Basile, 2014), big data, the environment (Sivarajah, Irani, Gupta, & Mahroof, 2020), and industrial networks (Lacoste, 2016a). Despite such attention towards sustainability, our research aims to contribute to the B2B marketing literature by examining how the B2B marketing-laden industrial value-added affects sustainable development within the purview of geopolitical risks and economic policy uncertainty among the influential global blocs such as G20, G7, and BRICS.

Second, our research makes a vital contribution to the industrial marketing management literature by focusing on two key aspects. Firstly, we acknowledge the importance of recognizing and comprehending potential cataclysms before implementing mitigation management techniques in the industrial marketing approach, in line with marketing management scholars (Chopra & Sodhi, 2004; Revilla & Sáenz, 2014). While previous studies have conceptualized the B2B marketing disruption phenomenon, those researchers have confined their scope to accidents, random events, terrorism, labor strikes, supply

concerns, and purposeful disruptions - factors that have hindered the addition of value to industrial sectors (Chopra & Sodhi, 2004; Sheffi & Rice Jr, 2005). In contrast, our study integrates geopolitical risk events and economic policy uncertainty to measure how these problematic issues can disrupt the B2B marketing performance and industrial value addition. Based on these findings, we propose a vibrant measure of B2B marketing strategies under a diligent management procedure.

Finally, this paper significantly contributes to the appraisal of the disruptive impacts of geopolitical risks and economic policy uncertainties on B2B interactions, which hampers the sustainable progress of dominant global blocs such as the G20, G7, and BRICS. More importantly, the study employs a novel approach by constructing risk parameters-driven foreign and domestic value-added variables to demonstrate their influence on sustainable development across varied global blocs. In addition, the study's comparative analysis considers the pertinent discussion of findings, thus enabling conclusions to be derived with crucial policy implications, representing a fresh addition to the literature on industrial marketing and sustainability. Ultimately, the findings of this study illuminate the essential policy-making measures that are imperative for influential global alliances in mitigating the disruptive impacts on B2B marketing caused by geopolitical risks and uncertainties in economic policies, thereby safeguarding the robustness of industrial marketing practices.

The subsequent sections of this paper encompass the following components: Section 2 presents an extensive literature review, accompanied by the theoretical foundations and empirical framework of relevant scholarly works. Section 3 highlights the materials and methods employed, including the data and their sources, as well as the empirical model and the econometric techniques implemented. Section 4 elucidates the experimental findings and provides a comprehensive discussion of their significance. Finally, Section 5 concludes by offering insightful implications and compelling conclusions derived from the study.

2. Literature review

The literature review encompasses the theoretical background and empirical evidence that highlights how B2B marketing phenomena are related to industrial value-added and sustainable development in the context of diverse risk issues, such as geopolitical events and policy-relevant economic uncertainties, as they appear on a global scale.

2.1. Theoretical underpinnings

Theoretically speaking, value-added to industry designates the joint contribution of the private and public sectors to the overall gross domestic product (GDP). Inclusion in the value-added calculation covers distinct components such as employee wages, production and import tax subsidies reductions, as well as the gross operating surplus amount (Bureau of Economic Analysis, 2006). Further to this point, Aslam, Novta, and Rodrigues-Bastos (2017) delineate six components, namely "compensation of employees, taxes on production, contributions on production, net operating surplus, mixed net income, and consumption of fixed capital." These components are amalgamated under a singular denomination entitled "value-added." In furtherance of this objective, the B2B marketing approach augments all these constituent elements of a country's industrial sector in contributing to the economic growth by providing marketing tactics, technology transfer and innovation, networking among marketing members, and dynamic marketing capacity (DMC) (Bratti & Felice, 2012; Hoque et al., 2022; Pham et al., 2017). Nevertheless, the inherent volatility of geopolitical disruptions and the deterioration of governmental policies can present formidable impediments to the realm of B2B marketing, leading to suboptimal material, goods, and services flows that fail to meet anticipated levels, thereby exerting an adverse impact on industrial value-added. (Zhang & Gao, 2022).

Conceptually, disruption encompasses two distinct scenarios: (i) "events, activities, or processes that are interrupted by disturbances or problems" or (ii) "the complete upheaval of an existing industry or market as a result of technological advancement" (Oxford University Press). The former denotes disruptions to marketing supply chains (e.g., Craighead et al., 2007), while the latter pertains to marketing disruptions occasioned by innovative interventions (e.g., Falkenreck & Wagner, 2017; Nagy, Schuessler, & Dubinsky, 2016). Significantly, both forms of disruption are germane to B2B marketing players as a critical supply chain component. In addition, B2B disruptions encompass unforeseeable incidents that hinder the flow of materials, goods, and services within B2B markets (Craighead et al., 2007). In this respect, risk-laden geopolitical events and economic policy uncertainties are the leading causes of B2B disruptions as they impede the trade flow of goods and services. Conspicuously, the magnitude of B2B marketing disruptions determines the corresponding level of industrial value-added, with a higher degree of disruption leading to lower industrial value-added and vice versa.

The term "geopolitical risks" alludes to the threats of wars, political unrests, and terrorist attacks that hinder the peaceful and normal development of international relations. Caldara and Iacoviello (2016) discuss that when geopolitical risks increase, it results in heightened volatilities that cause decreases in corporate credit allocations and disbursements, leading to a marked decline in business and marketing activities. Further exacerbating this issue is the fact that the participation of external business entities in the industrial value-added process is typically hindered by disruption, with the B2B marketing approach proving to be incapable of enacting marketing development in other countries. Understanding the significance of geopolitical risks is crucial for comprehending B2B marketing practices that stimulate industrial value-addition to diverse entities within specific countries. Additionally, investors are compelled to reassess their opinions of the feasibility of government policies in various nations as geopolitical risk events unfold. For instance, the Russian invasion of Ukraine culminated in an unprecedented decoupling between Western companies and Russia, and substantial disruptions in global markets for essential resources such as food, oil, and gas (Zhang & Gao, 2022). Consequently, enterprises worldwide are refocusing their strategies from regular operations management to responding and recovering from disruptions in reaction to macroenvironmental turmoil (Fiksel, 2015).

For countries affected by geopolitical risks, the aftermath entails the escalation of several economic consequences such as heightened transaction costs, reduced customer demand, or a diminished flow of funds. This, furthermore, has a negative impact on the uniformity of global trade rules and amplifies the volatility of all assets, which includes exports of goods and services – pivotal indicators of industrial value added (Al Mamun, Uddin, Suleman, & Kang, 2020). Geopolitical risks, such as the ever-increasing incidence of terrorism on an international scale, can not only dismember global supply chains and decrease foreign direct investment (FDI) but also elevate the cost of international business operations (Barth, Li, McCarthy, Phumiwasana, & Yago, 2006; Lenain, Bonturi, & Koen, 2002). In addition, the industrial goods supply chain (which incorporates raw materials) and the overall marketing dynamics in foreign B2B transactions may suffer adverse impacts from geopolitical hazards that include sanctions imposed on specific countries or the freezing of another government's financial assets, resulting in a rise in price volatility. This situation ultimately dissuades B2B marketing participants from engaging in the flow of goods and services, thereby compounding the adverse effects of geopolitical risks on industrial value added (Al Mamun et al., 2020). In essence, geopolitical risk events spur B2B disruptions and adversely affect industrial value added, influenced by B2B marketing performance.

Geopolitical risk poses a threat to industrial value addition, particularly within global value chains (GVCs), both in the short and long term. Ahir, Bloom, and Furceri (2022) economic policy uncertainty index, which has remained relatively stable since 2005, began to

increase due to rising tensions in the US-China trade war since 2018. Although it slightly decreased after a December 2018 agreement halt to escalate tariffs, the index spiked again in 2019 following the expansion of US tariffs, reaching ten times its prior recorded heights. As a result, the Americas and Asia saw significant negative impacts such as predictions of a decline in GDP growth. The index indicates that US-China trade tensions were responsible for nearly 20% of global uncertainty since 2016 at one point. Furthermore, Constantinescu, Mattoo, and Ruta (2020) discovered that since mid-2018, the increase in economic policy uncertainty led to a 1% decline in world trade growth. This trend may have a more severe impact on industrial value addition, as measured by the GVC trade portfolio, if long-term investments are withheld.

Economic policy uncertainty, in essence, pertains to policymakers' decisions regarding diverse determinants that encompass both micro and macroeconomic factors, such as purchasing power parity (PPT) established by the inflationary state, taxes and investments. It is, therefore, noteworthy to mention that governmental policy implications for these factors are critical in regulating trade flows within an economy. Additionally, the performance of financial enterprises in both trade and marketing endeavors heavily relies on the resilience of government policies in relation to significant macroeconomic determinants (Wrigley & Dolega, 2011). There are numerous robust economic justifications that prove the impact of economic policy uncertainty on marketing goods and services.

First, Gulen and Ion (2016) argue that extensive policy uncertainty can result in business decisions to either cut investments, delay consumptions or savings. Furthermore, they provide substantiated evidence to support their claim that such decisions can, in turn, undermine vibrant marketing activities. Considering that inadequate governmental policy measures can hinder B2B marketing participation in promoting exports, the regular flow of goods and services falls prey to unfavorable trade restrictions (Wright, 2004). Second, the unpredictability of government action is known to cause an increase in projected risk premiums and market volatility, as supported by the studies conducted by Pastor and Veronesi (2012) and Pástor and Veronesi (2013). In particular, the policy decisions made by the government can have a detrimental impact on financial markets as the value of the government's safeguards is directly affected, leading to a shift of risks onto the financial system (Pastor & Veronesi, 2012). Furthermore, when policy uncertainty hints at an economic slowdown, investors hold back from conducting business and marketing operations, such as B2B marketing dealings, as concluded by the research conducted by Lindgreen and Di Benedetto (2020). Therefore, the resultant ambiguity of government policy can lead to volatility in the prices of marketing goods and services, leading to a dilemma in pricing that ultimately downsizes the marketing flows of various businesses and leads to B2B disruptions (Kumar & Yakhlef, 2016). Finally, it is important to highlight that governmental policy decisions related to macroeconomic determinants have a direct impact on the industrial value added through the B2B marketing approach as noted by the research conducted by Leviäkangas and Molarius (2020).

In the realm of marketing, there is a close link between the potential for business-to-business (B2B) marketing and sustainable development, which has been underscored by numerous researchers, including Voola et al. (2022) and Lindgreen and Di Benedetto (2020). Notably, these studies have highlighted four keyways in which the potential for B2B marketing can accelerate industrial development and drive progress towards sustainable development goals. The potential impact of B2B marketing on various societal segments is multifaceted and noteworthy. Firstly, B2B enterprises can generate substantial employment opportunities, which serve as a crucial mechanism for alleviating poverty in such segments. Secondly, B2B businesses that prioritize supply chain management can tackle contemporary issues, including unemployment, resulting in both economic and welfare benefits. Thirdly, adopting inclusive hiring practices in B2B ventures presents an opportunity to mitigate existing inequities. Lastly, as mentioned by Vesal, Siahtiri, & O'Cass (2021), the promotion of eco-friendly manufacturing and consumption practices by B2B companies has the potential to create a long-lasting positive environmental impact.

To sum up, the industrial development facilitated by B2B marketing is contingent upon various macro and microeconomic indicators that are subject to fluctuations and uncertainties. These uncertainties, which include geopolitical risks and impractical economic policy decisions, have been noted to obstruct the free flow of investments, materials, goods, and services (Craighead et al., 2007). As a result, the potential of industrial operations to contribute to sustainable development is curtailed due to these uncertainties, as Voola et al. (2022) pointed out. The B2B marketing sector, in particular, has to contend with the geopolitical and economic uncertainties that have a disruptive impact on marketing operations. The disruption significantly impacts firm-level production portfolios by curbing export volumes, hindering both domestic and foreign value creation within industries, and drastically reducing countries' participation in global value chains (Jeong, Jean, Kim, & Samiee, 2022). This, in turn, results in stagnant economic growth that fails to reach the optimal level specified by policy frameworks (Gur & Dilek, 2023). Moreover, as depicted in Fig. 1, the achievement of global sustainability targets and sustainable development goals, which encompass responsible resource utilization, waste minimization, carbon footprint reduction, energy efficiency maximization, and the creation of healthier communities capable of self-sustainability, faces hindrances due to the destabilizing ripple effects of geopolitical events and economic policy volatilities. Therefore, it is imperative to note that the destabilizing effects of such uncertainties negatively impact the entire industrial value-added process and further hamper sustainable development efforts.

2.2. Empirical studies

Beyond the expedient of theoretical foundations, there exists a scarcity of empirical inquiries accentuating the obstruction of B2B operations due to geopolitical volatility and policy-induced economic ambiguity, which disrupts the creation of industrial value and poses challenges to sustainable development. Despite this, some researchers showed that B2B marketing is a turnaround mechanism suitable for establishing and maintaining a competitive advantage (Helfat & Winter, 2011; Kaleka & Morgan, 2019). In addition, B2B marketing mechanisms help deploy marketing resources and aptitudes for the domestic and foreign businesses for their sustainable development (Kaleka & Morgan, 2017). Lacoste, 2016b discovers that B2B marketing companies co-create value with their customers by constructing supplier-customer networks, which the sustainability parameter aims to achieve. He also mentioned that the B2B marketing approach could be the catalyst for adding value to industries by providing sustainable marketing strategies concerning commodities and services. Voola et al. (2022) literature review asserts that B2B scholarship on marketing alliances can directly map the Sustainable Development Goals (SDG) objectives as SDG 17 aims to promote successful public, private, and civil society partnerships. Moreover, the nexus between the B2B marketing approach, industrial value-added and sustainable development in the context of geopolitical risks and economic uncertainty is entirely scanty in the industrial marketing literature.

E-commerce in the B2B marketing framework has gained significant footing on sustainable development. For instance, the green marketing strategy has become a significant addition to B2B marketing in the developed world to respond to people and the planet considering the comprehensive goal of sustainable development. The ultimate target of this market strategy under the e-commerce framework is to perform social and ecological cause-related green marketing activities to serve the people and planet while making a profit (Olsen et al., 2014). However, the effectiveness of e-commerce depends on (i) all stakeholders having faith in the institutions maintaining the security of online transactions and (ii) sellers having access to the IT expertise, hardware, and software required for e-commerce (Sila, 2013). According to Sheth

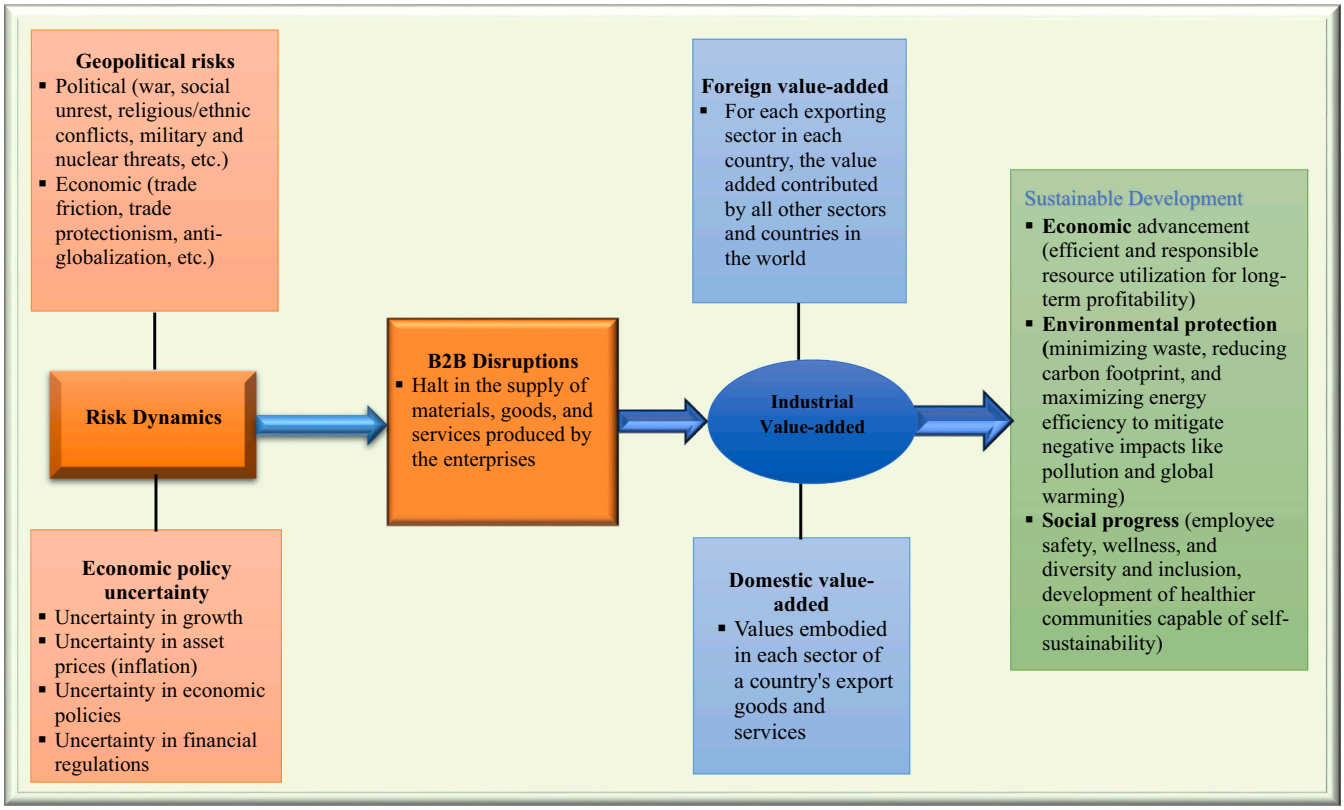

Fig. 1. Risk dynamics-driven B2B disruptions, industrial value-addition and sustainable development.
Sources: Authors' construction following Craighead et al. (2007), Falkenreck and Wagner (2017); Nagy et al. (2016), Caldara & Iacoviello, (2022) and Zhang and Gao (2022).

(2011), emerging economies are distinguished from developed economies by the underdevelopment of some institutions, which causes B2B marketing practices to suffer from a lack of accurate and sufficient information for stakeholders, ineffective judicial systems, and inefficient infrastructure, among others (Rottig, 2016). Due to poor institutional quality, e-commerce-based B2B marketing operations in emerging markets experience more significant uncertainty, greater risks, and higher transaction costs. As a result, customers are less likely to adopt digital channels for commercialization, which could limit the potential advantages of a strong e-commerce capability to industrial outputs and sustainable development (Sila, 2013).

The B2B disruptions literature are mostly theoretical in connecting this phenomenon with sustainable development. The common notion depicts that B2B disruption hampers the movement of materials, goods and services (Craighead et al., 2007). It has become a critical challenge for resource pooling and value-addition in B2B markets for some previous decades and recent times (Fiksel, 2015). Very recently, some studies signaled the trade war between U.S. and China that interrupted many B2B dealings in cross-border transactions (Gereffi, Lim, & Lee, 2021). Besides, the Covid-19 epidemic vigorously disordered global supply chains and disrupted major B2B market partners (Pedersen et al., 2020; Singh, Sharma, & Kumar, 2021). More recently, the Russian invasion of Ukraine led to an unprecedented decoupling of Western companies from Russia and severely disrupted the markets for food, oil, and gas in Europe and the rest of the world (Zhang & Gao, 2022). Many researchers consider tumults in the B2B marketing process caused by new technologies, such as the internet of things and block chain, disruptions to the network members including mergers or partner-induced disruptions in buyer-seller relationships (Aarikka-Stenroos & Ritala, 2017; Zhang, Bai, & Gu, 2018), and marketing channel responses to supply disruptions (Falkenreck & Wagner, 2017; Pedersen et al., 2020).

A noteworthy trend that has been observed in a significant subset of B2B literature concerns a growing interest in sustainability that pervades through different contexts, including branding (Czinkota et al., 2014), big data (Sivarajah et al., 2020), business networks (Lacoste, 2016), and environmental issues (Sivarajah et al., 2020). Despite the encouraging progress made in these domains, it is worth noting that studies (e.g., Sharma, 2020), have revealed that B2B-based sustainability literature has predominantly focused on customer research, rendering other crucial areas that need to be explored and studied more. One such area of research that has been relatively rare, despite its essential nature, centers on the occurrence of B2B marketing disruptions that could stem from geopolitical and economic uncertainties. Scholars in this field contend that the increasing volatility of the market necessitates a fresh perspective anchored on incorporating new production methods based on technology (Falkenreck & Wagner, 2017; Ritter & Pedersen, 2020), innovative institutional reforms (Vargo & Lusch, 2016), and a profound understanding of network partners' dissatisfaction within marketing supply chains (Tsao et al., 2019).

Olanipekun, Güngör, and Olasehinde-Williams (2019) examined geopolitical risk and economic uncertainty in the BRICS economies, with a focus on exchange rate pressure. Results show that only China exhibits bidirectional causality between foreign exchange market pressure and economic policy uncertainty, whereas no causality was detected for Russia. Olasehinde-Williams and Olanipekun (2022) investigated the causal link between US economic policy uncertainty and exchange market pressure in nine African economies, finding a Granger causality effect. In another study, Olasehinde-Williams and Balcilar (2022) studied the impact of geopolitical risk on insurance premium in 18 countries and found a larger impact on nonlife versus life insurance premium. Additionally, real income has a positive effect on premiums. Finally, Olasehinde-Williams, Olanipekun, and Usman (2023) found that geopolitical tensions can lead to energy price surges in the European Economic Area, but the impact has weakened over time and is more

significant in countries with weaker inflation controls.

Through our empirical literature review, we have identified that previous studies have largely emphasized the country-specific and global conditions through commentaries and descriptive analyses in relation to B2B marketing strategies and industrial value addition, as well as the sustainable development issue, considering various disruptive factors. Furthermore, a limited number of studies have delved into the management of B2B disruptions, and the effects of macro-environmental changes such as economic policy uncertainties and geopolitical conflicts on suppliers and customers. In contrast, our study adopts robust econometric techniques to analyze time-series data across diverse global blocs. We seek to shed light on the impact of geopolitical risk events and economic policy uncertainty on B2B marketing outputs, specifically in terms of industrial value addition encompassing domestic and foreign value. Moreover, the novel contribution of this research includes addressing the research gap by examining major global blocs that have a significant influence on the global industrial landscape.

3. Materials and methods

3.1. Empirical model

The theoretical foundation of this study posits that B2B marketing dynamics elicit foreign and domestic industrial value-added. Notably, the direct and indirect contributions of B2B marketing in industrial value-added afford individual firms with business knowledge, strategies, technologies, and dynamic marketing capability at both domestic and international levels (Matthyssens, Vandenbempt, & Weyns, 2009). By utilizing B2B marketing strategies, firms can discern external buyers' demands and integrate demand-driven products into their business strategy framework (Molenaar, 2022).

Broadly speaking, marketing strategies hinge upon the decisions of policymakers pertaining to micro and macroeconomic indicators, including but not limited to inflation (consumer price index), producer price index, domestic and foreign investment, exports, and imports (trade), and national income (Van Phuc & Duc, 2021). When policymakers fail to enact prudent measures, these indicators can become riddled with uncertainty, thereby impeding the dynamic contributions of B2B marketing to industrial value-added (Ramlall, 2018) and sustainable development (Voola et al., 2022). Moreover, geopolitical risks such as nation-state competition, militarization, nuclear threats, war, and global economic downturn can adversely impact B2B marketing operations, affecting both foreign and domestic industrial value-added in an economy (Chernov & Sornette, 2020) and hampering sustainable socio-economic development (Al Mamun et al., 2020). In light of this theoretical groundwork, we propose two models, one for each region (G20, G7, ASEAN, and BRICS), for empirical investigation by employing a novel econometric technique.

(a) **B2B marketing disruptions and industrial value-added nexus models.**

For G20 countries [Model 1: FVA = (GPR, EPU); Model 2: DVA = (GPR, EPU)]

For G7 countries [Model 3: FVA = (GPR, EPU); Model 4: DVA = (GPR, EPU)]

For BRICS countries [Model 5: FVA = (GPR, EPU), Model 6: DVA = (GPR, EPU)]

(b) **B2B marketing-laden industrial value-added, risks-augmented industrial value-added and sustainable development nexus models.**

For G20 countries [Model 7: SD = (FVA, GPR, EPU, GAF, EAF); Model 8: SD = (DVA, GPR, EPU, GAD, EAD)]

For G7 countries [Model 9: SD = (FVA, GPR, EPU, GAF, EAF); Model 10: SD = (DVA, GPR, EPU, GAF, EAF)]

For BRICS countries [Model 11: SD = (FVA, GPR, EPU, GAF, EAF); Model 12: SD = (DVA, GPR, EPU, GAD, EAD)]

Where, FVA: Foreign value added; DVA: Domestic value added; GPR: Geopolitical risks; EPU: Economic policy uncertainty, SD: Sustainable development, GAF: Geopolitical risks-augmented foreign value-added, EAF: Economic policy uncertainty-augmented foreign value-added; GAD: Geopolitical risks-augmented domestic value-added; EAD: Economic policy uncertainty-augmented domestic value-added.

3.2. Data and sources

In this study, we estimated the influence of geopolitical risks and economic policy uncertainty on industrial value added (foreign and domestic) proxied by B2B marketing dynamics for sustainable development in the context of the world's major economic platforms such as G20, G7 and BRICS during 1990–2019. We selected this study's period as it represented a unique global trade that started in the 1990s while laying the foundation of the world trade organization (WTO). Besides, within this timespan, the entire world experienced the emergence of different multinational and transnational companies and their business momentum to develop distinctive marketing strategies, such as B2B and B2C marketing approaches. We employed data sourced from UNCTAD-Eora Global Value Chain Database, 2022, Sustainable Development Index (SDI), 2021, and Caldara & Iacoviello, 2022.

Table 1 reports the specifications of our variables. Moreover, the dataset's features induce us to employ a panel-based assessment procedure as there is an unusual disparity among our sample countries regarding industrial value added triggered by the B2B marketing potentials, sustainable development, geopolitical risk issues and economic policy uncertainty. In this case, the quantile regression technique, especially the quantiles via moments, can address the country or region-specific heterogeneity relating to B2B marketing-laden industrial value-added and sustainable development affected by the geopolitical and economic policy uncertainties.

Our first two dependent variables are foreign value-added (FVA) and domestic value-added (DVA), which are represented in countries' exports. In devising these two indices, Aslam et al. (2017) assumed a world that comprises only 3 economies with 4 sectors for each. Equipped with the $\boldsymbol{T}_v$ matrix in block matrix annotation (Eq. 1):

$$\begin{bmatrix} \boldsymbol{T}_{v11} & \boldsymbol{T}_{v11}\cdots & \boldsymbol{T}_{v11} \\ \boldsymbol{T}_{v12} & \boldsymbol{T}_{v22}\cdots & \boldsymbol{T}_{v11} \\ \vdots & \vdots\ddots & \vdots \\ \boldsymbol{T}_{v11} & \boldsymbol{T}_{v11}\cdots & \boldsymbol{T}_{vGG} \end{bmatrix} \tag{1}$$

The components of the $\boldsymbol{T}_v$ matrix in eq. 1 are the domestic value added (DVA) and foreign value added (FVA). The diagonal elements of the TV matrix provide the DVA for each country. Therefore, adding up all the blocks in the respective column and taking out the diagonal block matrix yields the FVA for each country. Importantly, by design, DVA and FVA always equal gross exports (or unity if expressed as ratios to gross exports). Similarly, by adding only the necessary rows or columns of the country block matrix, we can compute DVA and FVA at the country-sector level.

These indices are the outputs of three key elements (matrices) of inputs and outputs, which are (i) Intermediate goods demand (the $\boldsymbol{T}$ matrix), (ii) final demand (the $\boldsymbol{F}$ matrix), and (iii) value added or primary inputs (the $\boldsymbol{V}$ matrix). It is crucial to know about the FVA and DVA matrices, which are generated using the components of the $\boldsymbol{T}$ and $\boldsymbol{F}$ matrices, and the $\boldsymbol{V}$ matrix, which is the raw data provided by Eora. The $\boldsymbol{V}$ matrix offers value addition from the accounting perspective. This matrix typically consists of six components: employee remuneration comes first, followed by production taxes, production subsidies, net operational surplus, net mixed-income, and consumption of fixed capital. Finally, these six elements are collectively grouped under the heading "value-added" (Aslam et al., 2017).

Table 1
Data illustrations and sources.

Code	Descriptions	Data measurement	Sources
FVA	Foreign value-added	Foreign value added is an index that consists of these components including "compensation of employees, taxes on production, contributions on production, net operating surplus, mixed net income and consumption of fixed capital". These value-added components emanate from the external business and marketing practices, which are embodied in the exports of the countries.	UNCTAD, 2022
DVA	Domestic value-added	Domestic value added is an index that comprises some elements (see the components of foreign value added), which originate from the local business and marketing practices. These domestic value-added components are embodied in countries' export goods and services.	UNCTAD, 2022
SD	Sustainable development	Using Hickel's (2020) technique, the sustainable development index is created by dividing the Development Index by the Ecological Impact Index.	SDI (2021)
GPR	Geopolitical risks	The global geopolitical risk index accentuates the compilation of monthly news stories from US-based top 11 newspapers that discuss six dimensions of geopolitical events including war, beginning of war, escalation of war, peace threats, military buildups, nuclearization and terrorization.	Dario Caldara & Iacoviello, 2022
EPU	Economic policy uncertainty	Global economic policy uncertainty is an index congregating mainly two underlying components, purchasing power parity (PPP) and exchange rate, to gauge policy-related volatility on these macroeconomic determinants.	Dario Caldara & Iacoviello, 2022
GAF	Geopolitical risks-augmented foreign value-added	The augmented form of GAF is constructed by multiplying the geopolitical risks (GPR) and foreign value-added (FVA) under the linearization of the power function.	Dario Caldara & Iacoviello, 2022; UNCTAD, 2022
EAF	Economic policy uncertainty-augmented foreign value-added	The augmented form of EAF is constructed by multiplying the economic policy uncertainty (EPU) and foreign value-added (FVA) under the linearization of the power function.	Dario Caldara & Iacoviello, 2022; UNCTAD, 2022
GAD	Geopolitical risks-augmented domestic value-added	The augmented form of GAD is constructed by multiplying the geopolitical risks (GPR) and domestic value-added (DVA) under the linearization of the power function.	Dario Caldara & Iacoviello, 2022; UNCTAD, 2022
EAD	Economic policy uncertainty-augmented domestic value-added	The augmented form of EAF is constructed by multiplying the economic policy uncertainty (EPU) and domestic value-added (DVA) under the linearization of the power function.	Dario Caldara & Iacoviello, 2022; UNCTAD, 2022

Note: The natural logarithmic forms of the variables are considered in the study.

Our third dependent variable is sustainable development index devised by Hickel (2020). Five factors comprise the sustainable development index (SDI): material footprint, CO2 emissions, life expectancy, income, and education. The SDI is calculated by devising two indices: a development index (defined as the geometric mean of the education, life expectancy, and modified income indices) and an ecological index (defined as the average overshoot of CO2 emissions and material footprint relative to their per capita planetary boundaries, indexed on a natural exponential scale). The SDI is created using the following formula:

$$\text{SDI} = \frac{Development\ Index}{Ecological\ Index.}$$

$$\text{Development Index} = \sqrt[3]{Edu\ Idx{*}Life\ Idx{*}Income\ Idx}$$

Human Development Index (HDI) includes an index for education, and it also includes an index for life expectancy (HDI).

$$\text{Income Index} = 1 + \frac{ln(GNIpc) - ln(100)}{ln(20,000) - ln(100)}$$

$$\text{Ecological Impact Index} = 1 + \frac{e^{AO} - e^{1}}{e^{4} - e^{1}}$$

Where, AO stands for Average Overshoot. Here, the range of boundary overshoot (or undershoot) is defined by dividing emissions and material footprint values by the appropriate planetary boundary.

$$\text{AO} = \sqrt[2]{\left(\frac{MF}{boudary} \geq 1\right) * \left(\frac{CO2}{boundary} \geq 1\right)}$$

Where, MF indicates material footprint. It is noteworthy that the AO index is constructed on a natural exponential scale within the ecological impact index.

Our independent variables are geopolitical risks and economic policy uncertainty. Caldara and Iacoviello (2022) developed a measure of unfavorable geopolitical events and related risks based on a count of 10 US-based dailies' articles concerning geopolitical risks. They analyzed these risky events' consequences and economic implications since 1900. They viewed that an increase in geopolitical risk events leads to declining stock prices, global marketing flows, employment, and investment. Furthermore, more significant economic catastrophes and threats to the worldwide economy are related to higher geopolitical risks. Geopolitical risks consist of geopolitical risks' 'threats' and 'acts' measures. Geopolitical risks' threats' measure highlights two keywords: military strains and nuclear risks, including threats concerning war, peace, military prowess, nuclearization, and terrorization. In addition, geopolitical acts measure accentuates specific watchwords: the realization or intensification of aggressive actions, including war inception and spread, and the operational phase of terrorist attacks. Overall, the cumulative geopolitical events incorporate words containing categories 1 to 8 in making the index.

On the other hand, the economic policy uncertainty (EPU) index is based on newspaper coverage frequency. Several types of evidence – including 12,000 dailies' articles – imply that the index proxies for

changes in policy-relevant economic uncertainty. Baker, Bloom, and Davis (2016) opined that policy uncertainty is linked to increased stock price volatility, decreased investment, and reduced employment in industries that are sensitive to policy. Moreover, new forms of policy uncertainty portend decreases in different economies' investment, output, and employment at the macro level. Moreover, this economic policy uncertainty is an index massing mainly two fundamental factors, purchasing power parity (PPP) and exchange rate, to evaluate policy-related precariousness on the macroeconomic indicators. Therefore, quantifying media coverage of policy-related economic uncertainty is the most adaptable part of covering the perspectives of the globe, countries, and regions.

We construct our four independent variables, i.e., geopolitical risks-augmented foreign value-added (GAF), geopolitical risks-augmented domestic value-added (GAD), economic policy uncertainty-augmented foreign value-added (EAF) and economic policy uncertainty-augmented domestic value-added (EAD), employing the linearization of the power function specified below:

$$Y = (Y_1, Y_2)^{\alpha} \text{ and } log(Y) = log(\alpha) = (Y_1, Y_2) \tag{2}$$

Where, Y denotes the augmented forms of the variables e.g., GAF (geopolitical risks-augmented foreign value-added), GAD (geopolitical risks-augmented domestic value-added), EAF (economic policy uncertainty-augmented foreign value-added) and EAD (economic policy uncertainty-augmented domestic value-added). Y_1 represents geopolitical risks (GPR) index and economic policy uncertainty (EPU) index; Y_2 indicates the foreign value-added (FVA) and domestic value-added (DVA). We yield the log of Y from $(Y_1{*}Y_2)$. We construct the augmented form of our above-mentioned independent variables e.g., GAF, GAD, EAF, EAD by following (Islam et al., 2023; Sultana, Moniruzzaman, Shamsuddin, & Tareque, 2019).

3.3. Quantiles via moments approach

We adopt the Quantiles via Moments (QVM) method, as proposed by Machado and Silva (2019), to analyze our empirical model. This methodology proves to be particularly suitable for our study, considering the heterogeneity observed across our variables of interest, including industrial value-added (represented by foreign and domestic value-added), sustainable development, geopolitical risk events, and economic policy uncertainty. Traditional panel approaches often struggle to effectively address the inherent cross-sectional disparities that exist among panel entities.What sets QVM apart from other quantile approaches is its capability to control locational and scaling heterogeneities in assessing the responsiveness of the dependent variable to the independent variables throughout the computational procedure. Therefore, we can effectively derive the following set of equations to quantify our model.

$$Y = \alpha + X^{'}\beta + \sigma(\delta + Z^{'}\gamma)U \tag{3}$$

where, Y denotes the dependent variable, $X^{'}$ shows the vector of the regressors, β points out slope coefficients and Z delineates a k-vector of observed differentiated (with probability value 1) conversions of the indicators of X with component 1 (see Appendix 2 for further mathematical background on the quantiles via moments approach).

When utilizing the quantile-via-moment approach, it presents the possibility of implementing techniques that are solely suited for estimating conditional means while also segregating cross-sectional effects in panel data models, all while examining how the regressors impact the comprehensive conditional distribution. These informative benefits arising from quantile regression could be considered its most appealing aspect. Furthermore, through the imposition of moment conditions, Quantile via Moment provides robust estimators even in the presence of endogeneity. Survey data by Koenker and Hallock (2001), Cade and Noon (2003), and Bassett and Koenker (1986) corroborate this fact. Notably, this approach encapsulates perhaps the most exceptional attribute of quantile regression (Buchinsky, 1994; Chamberlain, 1994). Additionally, this technique facilitates the estimation of complex models and yields regression quantile estimations that substantiate a vital prerequisite frequently unaddressed in empirical inquiries (Chernozhukov, Fernández-Val, & Galichon, 2010; He, 1997).

Finally, the quantiles calculated by means of moments estimation share a significant affinity with the method espoused by Chernozhukov and Hansen (2008), since, if furnished with adequate regular conditions, it can deduce the identical structural quantile function. The differentiation lies in its ability to be executed for non-linear models, while being notably more straightforward in terms of computational complexity, particularly in scenarios that involve numerous endogenous variables.

4. Empirical findings

4.1. Descriptive analysis findings

We kick off our results section by presenting the descriptive analysis of the variables of interest (Table 2). We observe that the variables' standard deviations under 'within' and 'between' measures reveal the regular variant of our variables over time among the sample of all the blocs, i.e., G20, G7 and BRICS.

We also see that the standard deviation is profound for most of our variables in the "within" and "between" options, delineating the country and region-wise disparities in our sample countries of diverse regions across the selected time of analysis. Therefore, we can appropriately utilize the quantiles via moments technique to check the heterogeneity issue among the variables and panel units.

4.2. B2B marketing disruptions and industrial value-added nexus

Table 3 documents the influence of geopolitical risk events and economic policy uncertainty on B2B marketing-induced industrial value added (foreign value added) in the context of G20 countries. Model 1 and 2 under the framework of quantiles via moments approach used in our study includes $Q_{FVA/DVA}\ (GPR, EPU) = \alpha + \dot{X}(GPR, EPU)\beta + \sigma(\delta + \dot{Z}\gamma)q(\tau)$. In these two models, we consider B2B marketing-induced foreign value-added (*FVA*) and domestic value-added (*DVA*) as the dependent variables and geopolitical risks (*GPR*) and economic policy uncertainty (*EPU*) as the independent variables.

Our findings from the quantiles via moments in Table 3 depict that geopolitical risks (*GPR*) have a monotonical negative and an insignificant influence on foreign value-added (*FVA*) and domestic value added (*DVA*) in the G20 countries from q.25-q.95 (see Fig. 2). The finding drawn suggests that geopolitical incidents have no impact on the efficiency of B2B marketing practices, which hold exceptional significance in bolstering the industry. This phenomenon is primarily attributable to the well-founded B2B marketing practices established by top-notch institutions in G20 countries, as posited by (Ulaga & Chacour, 2001). On the other hand, Table 3 also reports that economic policy uncertainty (*EPU*) positively and significantly impacts *FVA* and *DVA* from q.25-q95 in the G20 countries (see Fig. 1). This monotonic affirmative impact of economic policy uncertainty (*EPU*) implies prudent course of action on the part of the government to maintain a dynamic macroeconomic environment, thereby creating desirable circumstances for diverse marketing forces to augment the value of industries (Maji, Laha, & Sur, 2020) within G20 economies. Nonetheless, it is noteworthy that the positive influence of *EPU* shows a dip from lower to extreme quantiles, pointing towards the need for implementing more practical approaches to tackle any potential detrimental consequences of *EPU* on *FVA* and *DVA* in the near future.

Table 4 presents the results of the empirical Models 3 and 4, including $Q_{FVA/DVA}\ (GPR, EPU) = \alpha + \dot{X}(GPR, EPU)\beta + \sigma(\delta + \dot{Z}\gamma)q(\tau)$ in the context of G7 countries. Our findings depict that *GPR* has an

Table 2
Descriptive analysis.

G20 countries						G7 countries			
Variable		**Mean**	**Std. Dev.**	**Min.**	**Max.**	**Mean**	**Std. Dev.**	**Min.**	**Max.**
FVA	Overall	17.408	1.526	12.876	20.589	18.444	1.098	15.030	20.589
	Between		1.283	15.375	19.705		0.921	16.421	19.705
	Within		0.876	12.199	18.961		0.679	17.053	19.438
DVA	Overall	18.878	1.223	15.898	21.379	19.741	0.834	17.503	21.195
	Between		1.031	17.175	20.615		0.644	18.566	20.615
	Within		0.698	16.852	20.277		0.575	18.646	20.885
SD	Overall	−0.659	0.424	−1.857	−0.177	−0.795	0.441	−1.814	−0.297
	Between		0.396	−1.534	−0.229		0.424	−1.534	−0.342
	Within		0.175	−1.333	−0.033		0.191	−1.223	−0.247
GAF	Overall	79.492	8.220	57.960	100.674	84.186	6.964	61.561	100.674
	Between		5.888	70.151	89.946		4.207	74.945	89.946
	Within		5.888	63.646	90.530		5.739	68.880	94.914
EAF	Overall	80.012	11.678	50.845	113.908	84.669	10.703	60.185	113.908
	Between		5.874	70.777	90.455		4.203	75.449	90.455
	Within		10.179	56.902	104.432		9.952	67.504	108.122
GAD	Overall	86.168	7.452	65.974	105.734	90.112	6.513	70.146	105.734
	Between		4.711	78.371	94.097		2.941	84.750	94.097
	Within		5.871	69.646	97.806		5.901	75.010	101.749
EAD	Overall	86.664	11.186	62.609	118.582	90.574	10.388	69.583	117.559
	Between		4.705	78.903	94.550		2.919	85.289	94.550
	Within		10.204	65.951	113.335		10.021	73.656	114.609
BRICS countries									
FVA	Overall	16.595	1.328	13.989	19.644				
	Between		0.891	15.937	18.159				
	Within		1.060	13.787	18.148				
DVA	Overall	18.500	1.217	16.508	21.379				
	Between		0.906	17.581	19.992				
	Within		0.906	16.473	19.899				
SD	Overall	−0.4332	0.123	−0.774	−0.278				
	Between		0.105	−0.559	−0.317				
	Within		0.079	−0.690	−0.236				
GAF	Overall	75.7420	7.352	59.695	93.910				
	Between		4.064	72.738	82.871				
	Within		6.383	59.895	86.780				
EAF	Overall	76.316	11.422	55.090	107.979				
	Between		4.130	73.225	83.559				
	Within		10.803	53.206	100.736				
GAD	Overall	84.440	7.317	67.216	102.093				
	Between		4.138	80.246	91.253				
	Within		6.304	67.918	95.279				
EAD	Overall	85.000	11.640	65.009	118.582				
	Between		4.203	80.706	91.912				
	Within		11.012	64.286	111.670				
GPR	Overall	4.565	0.281	3.930	5.172				
	Between		0.000	4.565	4.565				
	Within		0.281	3.930	5.172				
EPU	Overall	4.579	0.398	3.937	5.546				
	Between		0.000	4.579	4.579				
	Within		0.398	3.937	5.546				

Note: The descriptive statistics measure the logarithmic values of the variables except for GAF, EAF, GAD and EAD. **Legend**: SD-Sustainable development; FVA-Foreign value added, GPR-Geopolitical risks; EPU-Economic policy uncertainty, GAF-geopolitical risks-augmented foreign value added, EAF-Economic policy uncertainty-augmented foreign value-added, GAD-Geopolitical risks-augmented domestic value-added, EAD-Economic policy uncertainty-augmented domestic value-added.

insignificantly negative effect on FVA and DVA from q.25 to q.95 in the case of G7 countries (see Fig. 3). This monotonic insignificant effect of GPR is caused by the institutional role in promoting B2B marketing initiatives (Grewal, Lilien, Petersen, & Wuyts, 2022). This marketing strategy of B2B participants helps accelerate industrial value added to G7 economies. In addition, results from Model 4 in Table 4 also delineate a monotonic positive influence of EPU on FVA and DVA from q.25 to q.95 in G7 countries (see Fig. 3). This monotonic and positively significant impact of EPU implies a friendly business environment created by the policymakers' decisions to give room for the marketers' congenial move towards the industrial development of these economies (Chen, Jin, Ouyang, Ouyang, & Wen, 2019). Nevertheless, it is important to bear in mind that within G7 economies, the constructive impact of economic policy uncertainty (*EPU*) displays a decline as it moves from lower to extreme quantiles, emphasizing the necessity for the adoption of more pragmatic measures to mitigate any probable adverse outcomes of *EPU* on *FVA* and *DVA* in the immediate future, a trend that is also mirrored in G20 countries.

Table 5 illustrates the findings from Models 5 and 6, containing $Q_{FVA/DVA}\ (GPR, EPU) = \alpha + \dot{X}(GPR, EPU)\beta + \sigma(\delta + \dot{Z}\gamma)q(\tau)$ from the perspective of the BRICS nations. Our investigated results explore that *GPR* negatively influences *FVA* and *GVA* of BRICS economies from q.25 to q.95 (see Fig. 4). This monotonic negative role of *GPR* illustrates the lack of capacity of the relevant institutions to combat the geopolitical events that makes marketing activities futile in promoting industrial proliferation in these economies (Grewal et al., 2022). It is worth emphasizing that the deleterious consequences of GPR on FVA and GVA exhibit a decreasing trend as it moves from lower to extreme quantiles, signifying a plausible reduction in the downward trajectory of geopolitical hazards concerning the industrial sectors of the BRICS nations.

Table 3
Industrial value added and geopolitical risks and economic policy uncertainty in G20 countries.

Variables	Location	Scale	q.25	q.50	q.75	q.95
Model 1: $Q_{FVA}\ (GPR, EPU) = \alpha + \bar{X}(GPR, EPU)\beta + \sigma(\delta + \bar{Z}\gamma)q(\tau)$						
*Ln*GPR	−0.1724	0.0104	−0.1831	−0.1717	−0.1627	−0.1548
	(0.2101)	(0.1023)	(0.2455)	(0.2094)	(0.2201)	(0.2559)
*Ln*EPU	1.5926***	0.2089***	1.8059***	1.5783***	1.3983***	1.2393***
	(0.1413)	(0.0688)	(0.1648)	(0.1427)	(0.1478)	(0.1720)
Constant	10.9019***	2.1174***	8.7402***	11.0468***	12.8707***	14.4824***
	(1.1638)	(0.5669)	(1.3579)	(1.1796)	(1.2178)	(1.4185)
Model 2: $Q_{DVA}\ (GPR, EPU) = \alpha + \bar{X}(GPR, EPU)\beta + \sigma(\delta + \bar{Z}\gamma)q(\tau)$						
*Ln*GPR	−0.1886	0.0697	−0.2564	−0.1870	−0.1272	−0.0546
	(0.1690)	(0.0894)	(0.1910)	(0.1691)	(0.1857)	(0.2396)
*Ln*EPU	1.3254***	0.1916***	1.5116***	1.3209***	1.1569***	0.9574***
	(0.1124)	(0.0594)	(0.1271)	(0.1134)	(0.1241)	(0.1587)
Constant	13.6699***	1.4940***	12.2179***	13.7049***	14.9838***	16.5398***
	(0.9265)	(0.4903)	(1.0478)	(0.9323)	(1.0215)	(1.3112)
Observations	570	570	570	570	570	570

Note: ***, ** and * delineate the 1%, 5% and 10% statistical levels of significance. *Ln* denotes natural log form. Standard errors in (). **Legend**: FVA-Foreign value added, GPR-Geopolitical risks; EPU-Economic policy uncertainty.

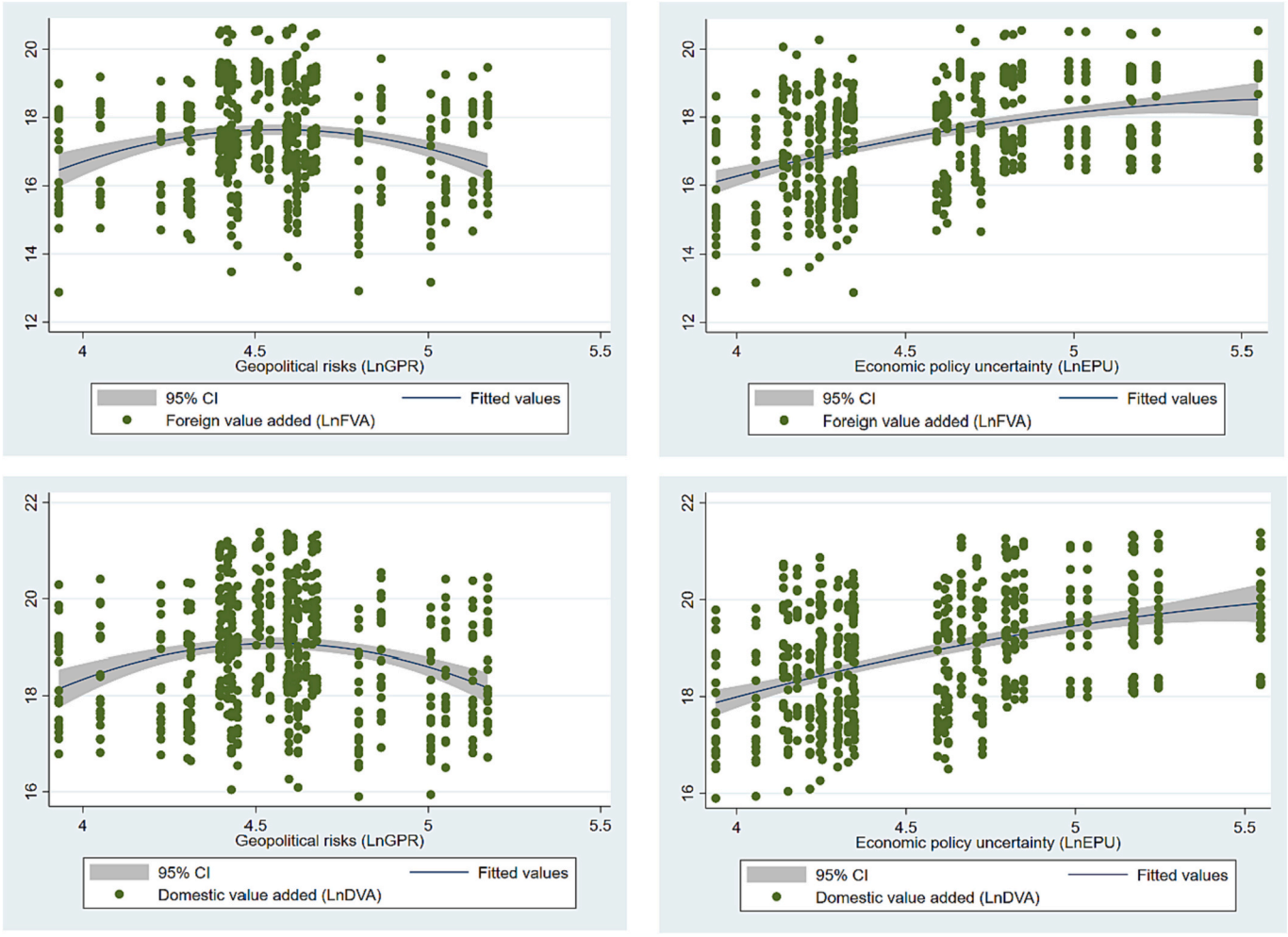

Fig. 2. Findings' fitted values for industrial value added and geopolitical risks and economic policy uncertainty.
Note: CI-Confidence interval. **Legend**: FVA-Foreign value added, GPR-Geopolitical risks; EPU-Economic policy uncertainty.

On the other hand, Table 6 documents that there is a monotonic positive influence of *EPU* on *FVA* and *DVA* induced by B2B marketing activities from q.25 to q.95 (see Fig. 3). This occurs due to relevant institutional performance in controlling adverse effects stemming from the micro and macroeconomic determinants to promote business and marketing functions in BRICS economies. The constructive implications of economic policy uncertainty (*EPU*) on Foreign Value Added (*FVA*) reduce consistently across all quantiles, leading to conundrums for

Table 4
Industrial value added and geopolitical risks and economic policy uncertainties in G7 countries.

Variables	Location	Scale	q.25	q.50	q.75	q.95
Model 3: $Q_{FVA}\ (GPR, EPU) = \alpha + \bar{X}(GPR, EPU)\beta + \sigma(\delta + \bar{Z}\gamma)q(\tau)$						
*Ln*GPR	−0.1695	0.0216	−0.1786	−0.1678	−0.1517	−0.1211
	(0.2283)	(0.1660)	(0.2656)	(0.2231)	(0.2107)	(0.3441)
*Ln*EPU	1.2858***	−0.1455	1.3472***	1.2744***	1.1666***	0.9605***
	(0.1519)	(0.1104)	(0.1763)	(0.1479)	(0.1403)	(0.2309)
Constant	13.3294***	1.2546	12.8006***	13.4276***	14.3572***	16.1346***
	(1.2572)	(0.91432)	(1.4606)	(1.2258)	(1.1616)	(1.9118)
Model 4: $Q_{DVA}\ (GPR, EPU) = \alpha + \bar{X}(GPR, EPU)\beta + \sigma(\delta + \bar{Z}\gamma)q(\tau)$						
*Ln*GPR	−0.1156	0.0121	−0.1242	−0.1155	−0.1049	−0.0917
	(0.1704)	(0.1029)	(0.1984)	(0.1703)	(0.1756)	(0.2361)
*Ln*EPU	1.0731***	−0.2104***	1.2217***	1.0727***	0.8895***	0.6603***
	(0.1094)	(0.0661)	(0.1269)	(0.1104)	(0.1140)	(0.1498)
Constant	15.3544***	1.4736***	14.3139***	15.3573***	16.6395***	18.2444***
	(0.9279)	(0.5605)	(1.0788)	(0.9334)	(0.9627)	(1.2790)
Observations	240	240	240	240	240	240

Note: ***, ** and * delineate the 1%, 5% and 10% statistical levels of significance. *Ln* denotes natural log form. Standard errors in (). **Legend**: FVA-Foreign value added, GPR-Geopolitical risks; EPU-Economic policy uncertainty.

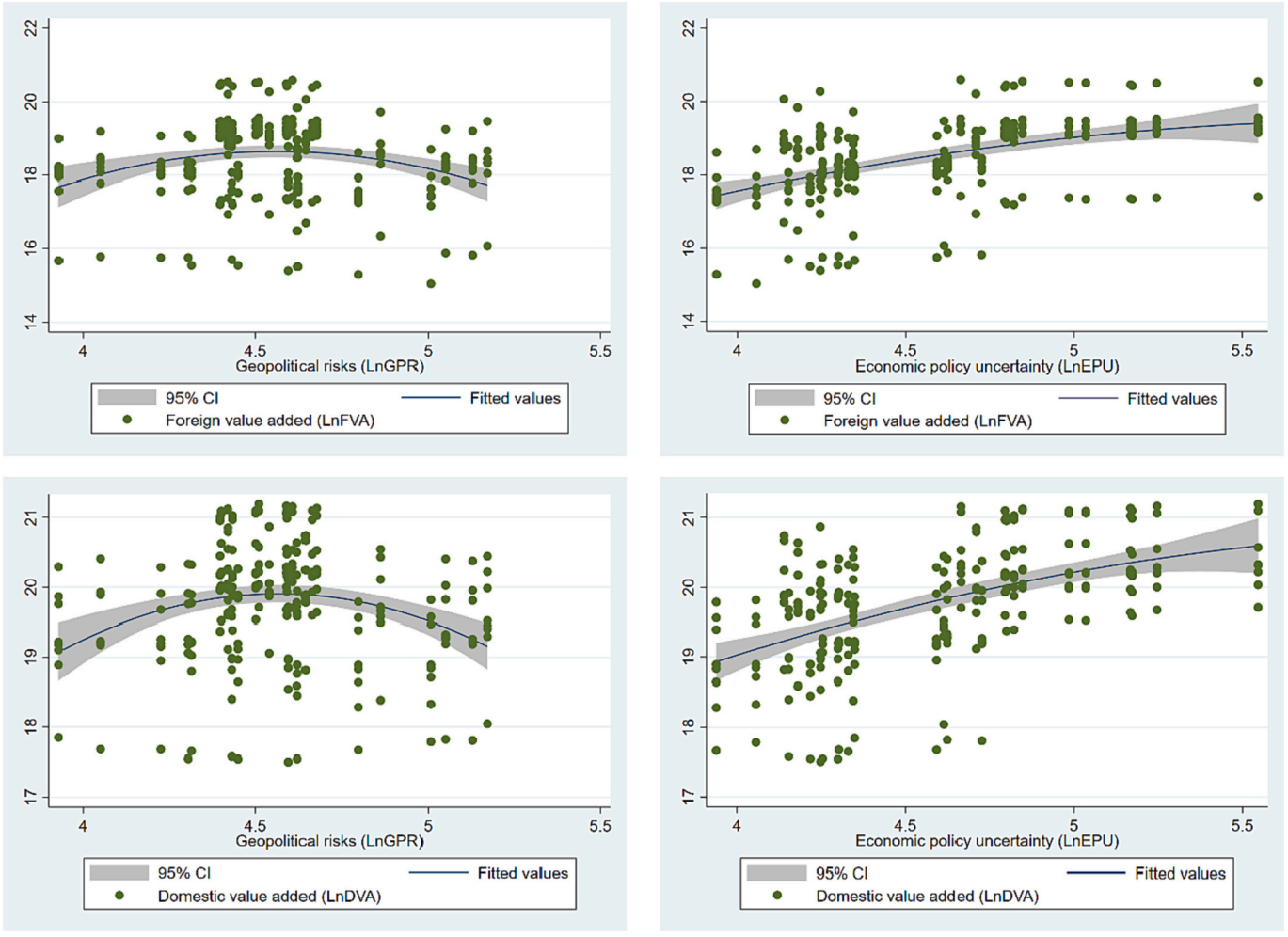

Fig. 3. Findings' fitted values for industrial value added and geopolitical risks and economic policy uncertainty.
Note: **CI**-Confidence interval. **Legend**: FVA-Foreign value added, GPR-Geopolitical risks; EPU-Economic policy uncertainty.

policymakers attempting to introduce suitable policy interventions that can effectively counter the downward trajectory of EPU on the industrial expansion of BRICS nations. Furthermore, the affirmative impact of EPU increases progressively from lower to extreme quantiles for Domestic Value Added (*DVA*), underscoring the judicious policies put in place by policymakers in BRICS economies aimed at fostering growth in domestic firms through strategic investment and the provision of fiscal and monetary aid.

Table 5
Industrial value added and geopolitical risks and economic policy uncertainties in BRICS countries.

Variables	Location	Scale	q.25	q.50	q.75	q.95
Model 5: $Q_{FVA}\ (GPR, EPU) = \alpha + \dot{X}(GPR, EPU)\beta + \sigma(\delta + \dot{Z}\gamma)q(\tau)$						
*Ln*GPR	−0.2427	0.0512	−0.2926*	−0.2587*	−0.2083*	−0.0975*
	(0.3099)	(0.2235)	(0.2268)	(0.2672)	(0.4266)	(0.8752)
*Ln*EPU	1.9966***	−0.0342	2.0300***	2.0074***	1.9737***	1.8995***
	(0.2156)	(0.1555)	(0.1578)	(0.1859)	(0.2968)	(0.6089)
Constant	8.5601***	0.7551	7.8240***	8.3239***	9.0671***	10.7013**
	(1.7266)	(1.2457)	(1.2639)	(1.4899)	(2.3784)	(4.8800)
Model 6: $Q_{DVA}\ (GPR, EPU) = \alpha + \dot{X}(GPR, EPU)\beta + \sigma(\delta + \dot{Z}\gamma)q(\tau)$						
*Ln*GPR	−0.1969	0.0713	−0.2661*	−0.2142*	−0.1434*	−0.0227*
	(0.2879)	(0.1849)	(0.2387)	(0.2654)	(0.3835)	(0.6581)
*Ln*EPU	1.7579***	0.0383	1.7207***	1.7485***	1.7866***	1.8515***
	(0.2055)	(0.1320)	(0.1704)	(0.1894)	(0.2737)	(0.4697)
Constant	11.3489***	0.2982	11.0597***	11.2764***	11.5724***	12.0769***
	(1.6141)	(1.0366)	(1.3385)	(1.4871)	(2.1494)	(3.6890)
Observations	150	150	150	150	150	150

Note: ***, ** and * delineate the 1%, 5% and 10% statistical levels of significance. *Ln* denotes natural log form. Standard errors in (). **Legend**: FVA-Foreign value added, GPR-Geopolitical risks; EPU-Economic policy uncertainty.

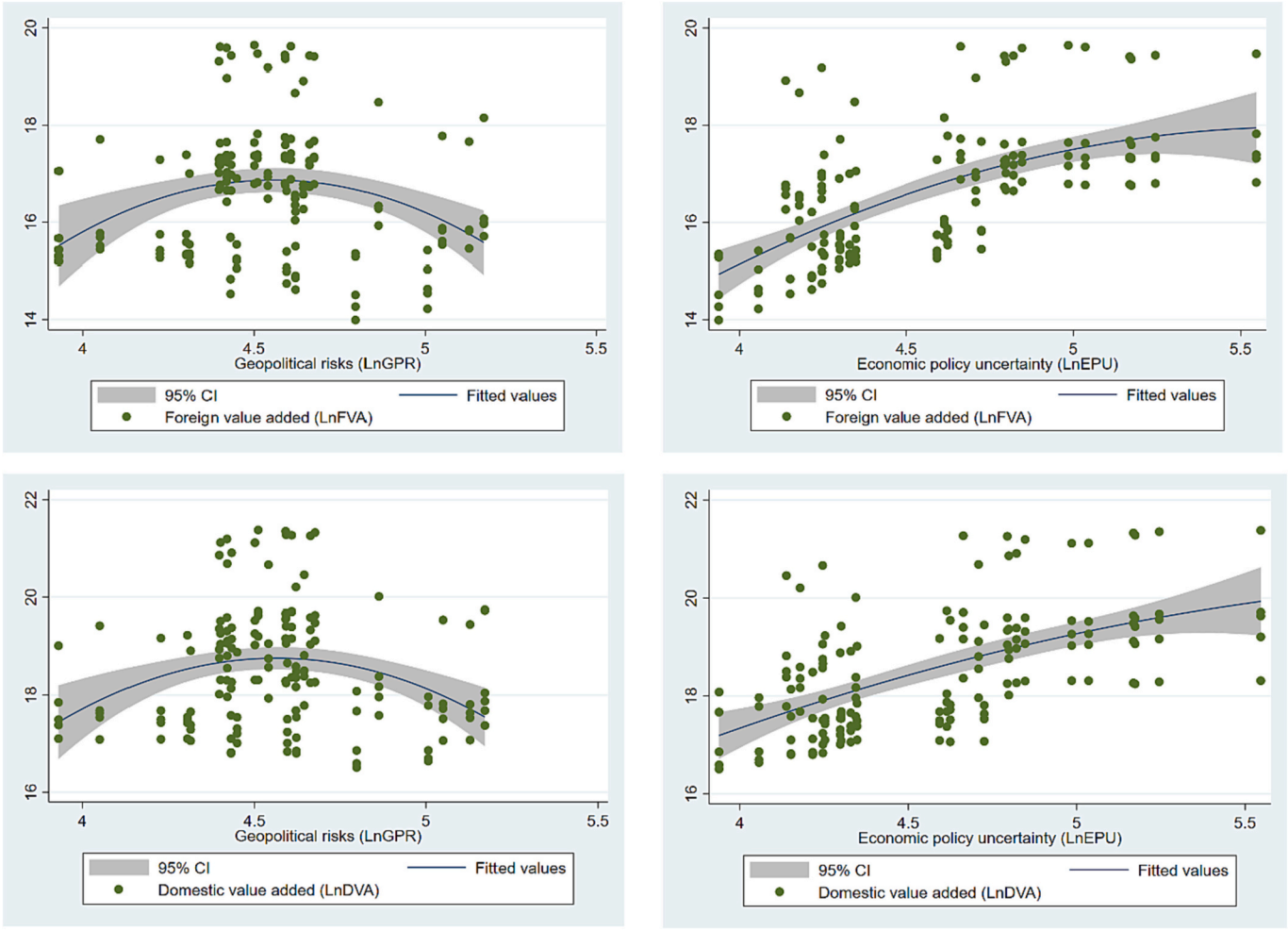

Fig. 4. Findings' fitted values for industrial value added and geopolitical risks and economic policy uncertainty.
Note: CI-**Confidence** interval. **Legend**: FVA-Foreign value added, GPR-Geopolitical risks; EPU-Economic policy uncertainty.

4.3. B2B marketing-laden industrial value-added, risks-augmented industrial value-added and sustainable development nexus models

Table 6 reports the influence of B2B marketing-laden industrial value-added and risks-augmented industrial value-added on sustainable development in the context of G20 countries. Models 7 and 8 under the framework of quantiles via moments approach used in our study includes $Q_{SD}\ (FVA|DVA, GPR, EPU, GAR, EAF) = \alpha + \dot{X}(FVA|DVA, GPR, EPU, GAR, EAF)\beta + \sigma(\delta + \dot{Z}\gamma)q(\tau)$. We consider the sustainable development (*SD*) index as the dependent variable in these two models. Besides,

Table 6
Industrial value-added, risks-driven value-added and sustainable development in G20 countries.

Variables	Location	Scale	q.25	q.50	q.75	q.95
Model 7: $Q_{SD}\,(FVA, GPR, EPU, GAR, EAF) = \alpha + \dot{X}(FVA, GPR, EPU, GAR, EAF)\beta + \sigma(\delta + \dot{Z}\gamma)q(\tau)$						
*Ln*FVA	0.3731 (0.2331)	0.2213094 (0.1997633)	0.2419	0.4868***	0.5675***	0.6417***
			(0.3406)	(0.1564)	(0.1264)	(0.1329)
*Ln*GPR	0.1143	0.1483844 (0.5315615)	0.0263 (0.9027)	0.1905 (0.4161)	0.2446 (0.3367)	0.2943
	(0.6204)					(0.3531)
*Ln*EPU	1.6265***	0.6893927	1.2178	1.9806***	2.2321***	2.4630***
	(0.5391)	(0.4619608)	(0.7903)	(0.3620)	(0.2921)	(0.3078)
GAF	−0.0081	−0.0080812	−0.0033	−0.0122	−0.0152	−0.0179
	(0.0377)	(0.0323016)	(0.0548)	(0.0252)	(0.0204)	(0.0214)
EAF	−0.0940***	−0.0342001	−0.0738*	−0.1116***	−0.1241***	−0.1355***
	(0.0305)	(0.026205)	(0.0447)	(0.0205)	(0.0165)	(0.0174)
Constant	−6.9582 *	−3.997957 (3.384017)	−4.5885	−9.0118 ***	−10.4705***	−11.8097***
	(3.9495)		(5.7755)	(2.6508)	(2.1407)	(2.2522)
Model 8: $Q_{SD}\,(DVA, GPR, EPU, GAD, EAD) = \alpha + \dot{X}(DVA, GPR, EPU, GAD, EAD)\beta + \sigma(\delta + \dot{Z}\gamma)q(\tau)$						
*Ln*DVA	0.3445 (0.2989)	0.1781 (0.2520)	0.2521 (0.4151)	0.4224**	0.5079***	0.5641***
				(0.2153)	(0.1645)	(0.1742)
*Ln*GPR	0.0653 (0.9074)	0.1362 (0.7650)	−0.0052 (1.2584)	0.1249 (0.6534)	0.1903	0.2332
					(0.4994)	(0.5289)
*Ln*EPU	1.9731***	0.4144	1.7583*	2.1544***	2.3534***	2.4841***
	(0.7299)	(0.6154)	(1.0128)	(0.5257)	(0.4019)	(0.4257)
GAD	−0.0054	−0.0066	−0.0020	−0.0083	−0.0115	−0.0136
	(0.0504)	(0.0425)	(0.0699)	(0.0363)	(0.0277)	(0.0294)
EAD	−0.1024***	−0.0189	−0.0926*	−0.1107***	−0.1198***	−0.1258***
	(0.0387)	(0.0326)	(0.0537)	(0.0279)	(0.0213)	(0.0226)
Constant	−7.1469 ***	−3.3658 (4.6060)	−5.4027 (7.5879)	−8.6186**	−10.2347***	−11.2964***
	(5.4629)			(3.9356)	(3.0068)	(3.1838)
Observations	570	570	570	570	570	570

Note: ***, ** and * delineate the 1%, 5% and 10% statistical levels of significance. Standard errors are in (). **Legend**: SD-Sustainable development; FVA-Foreign value added, GPR-Geopolitical risks; EPU-Economic policy uncertainty, GAF-geopolitical risks-augmented foreign value added, EAF-Economic policy uncertainty-augmented foreign value-added, GAD-Geopolitical risks-augmented domestic value-added, EAD-Economic policy uncertainty-augmented domestic value-added.

foreign value-added (FVA) and domestic value-added (DVA), geopolitical risks (*GPR*), economic policy uncertainty (*EPU*), geopolitical risks-augmented foreign value-added (*GAF*) and domestic value-added (*GAD*), economic policy uncertainty-augmented foreign value-added (*EAF*) and domestic value-added (*EAD*) as the independent variables.

Our findings, derived from the quantiles via moments in Table 6, demonstrate that foreign value-added (FVA) and domestic value-added (DVA) have a significant and monotonic effect on sustainable development (SD) within the G20 countries for the q.50-q.95 range. In this regard, B2B marketing plays a crucial role in influencing SD through FVA- and DVA-based industrial value-added. The implication of this finding is that B2B marketing-induced foreign and domestic value-added within the industrial sector contributes to the usage of green goods, reinforcing the protection of the natural environment, and promoting sustainable development in the G20 countries. Remarkably, there is a consistent and gradual augmentation in the affirmative influence of *FVA* and *DVA* on *SD* from q.50 to q.95 quantiles, underscoring the efficacy of the steadfast policy implementation activities undertaken by the relevant authorities aimed at promoting ecologically sustainable industries in G20 nations. Nevertheless, it is notable that within the lower quantile (q.25), both *FVA* and *DVA* exhibit a negligible impact on *SD*. This can be attributed to a lack of adequate policy execution focused on enhancing industrial value creation that would enable a sustainable and long-term developmental trajectory in G20 economies.

Table 6 reveals that the combined effects of geopolitical risks (GPR) and geopolitical risk-augmented foreign value added (GAF) fail to demonstrate a statistically significant contribution to sustainable development (SD) within the q.25-q.95 range. This discovery can be attributed to the robust institutional standards prevalent in G20 countries, which have stringent measures in place to shield their industrial sectors from the deleterious impact of external macro-environmental vicissitudes. Even though economic policy uncertainty (EPU) holds a positive sway over SD, EPU-augmented foreign value added (EAF) and domestic value added (EAD) wield a negative influence on SD within the q.25-q.95 realm. The steady rise of EPU's beneficial influence from the lower to upper quantiles is contingent on the efficacious policy measures adopted by these countries targeting macro-economic dynamics aimed at revitalizing sustainable development. Conversely, the steady upsurge of EAF and EAD's deleterious role from lower to extreme quantiles owes to the pertinent domestic and foreign industrial determinants that impede the optimal utilization of green marketing commodities, such as renewable technologies, aimed at promoting sustainable development.

Table 7 reports the impact of B2B marketing-induced industrial value-added and risks-augmented industrial value-added on sustainable development from the perspective of the G7 countries. Models 7 and 8 can be expressed under the quantiles via moments approach: $Q_{SD}\,(FVA|DVA, GPR, EPU, GAR, EAF) = \alpha + \dot{X}(FVA|DVA, GPR, EPU, GAR, EAF)\beta + \sigma(\delta + \dot{Z}\gamma)q(\tau)$. These two models treat the sustainable development (SD) index as the dependent variable and foreign value-added (FVA) and domestic value-added (DVA), geopolitical risks (*GPR*), economic policy uncertainty (*EPU*), geopolitical risks-augmented foreign value-added (GAF) and domestic value-added (GAD), economic policy uncertainty-augmented foreign value-added (EAF) and domestic value-added (EAD) as independent variables for G7 countries.

Employing quantiles via moments, we have ascertained from Table 7 that both foreign value added (FVA) and domestic value added (DVA) exhibit a monotonic and constructive sway on sustainable development (SD) within the q.75 to q.95 range. This observation emphasizes the indispensable role played by foreign and domestic value-added, represented by B2B marketing, in the production and consumption of renewable energy resources, thus mitigating environmental hazards and ushering in an era of sustainable development across G7 economies. However, within the q.25 to q.50 range, FVA and DVA have no statistically significant influence on SD. This finding can be attributed to the initial ineffectiveness of industrial policies implemented by G7 economies in promoting industries geared towards sustainable development.

Table 7 illustrates that geopolitical risk (GPR) and geopolitical risk-augmented foreign value added (GAF) fail to have any noteworthy

Table 7
Industrial value-added, risks-driven value-added and sustainable development in G7 countries.

Variables	Location	Scale	q.25	q.50	q.75	q.95
Model 9: $Q_{SD}\ (FVA, GPR, EPU, GAR, EAF) = \alpha + \bar{X}(FVA, GPR, EPU, GAR, EAF)\beta + \sigma(\delta + \bar{Z}\gamma)q(\tau)$						
*Ln*FVA	0.0716 (0.4409)	0.3950 (0.3035)	−0.2439 (0.6570)	0.2751 (0.3308)	0.4524* (0.2689)	0.5263** (0.2615)
*Ln*GPR	0.2549 (1.2715)	0.2022 (0.8753)	0.0934 (1.8805)	0.3590 (0.9481)	0.4498 (0.7772)	0.4876 (0.7566)
*Ln*EPU	0.3991 (1.0977)	1.1629 (0.7556)	−0.5296 (1.6393)	0.9982 (0.8252)	1.5201** (0.6692)	1.7377*** (0.6507)
GAF	−0.0158 (0.0724)	−0.0109 (0.0498)	−0.0070 (0.1071)	−0.0214 (0.0540)	−0.0263 (0.0442)	−0.0283 (0.0431)
EAF	−0.0283 (0.0592)	−0.0622 (0.0407)	0.0212 (0.0883)	−0.0604 (0.0445)	−0.0883** (0.0360)	−0.1000*** (0.0350)
Constant	−1.3726 (7.9110)	−7.0099 (5.4460	4.2260 (11.7852)	−4.9836 (5.9350)	−8.1293 (4.8252)	−9.4412 (4.6927)
Model 10: $Q_{SD}\ (DVA, GPR, EPU, GAD, EAD) = \alpha + \bar{X}(DVA, GPR, EPU, GAD, EAD)\beta + \sigma(\delta + \bar{Z}\gamma)q(\tau)$						
*Ln*DVA	0.5975 (0.5854)	0.3093 (0.3865)	0.3511 (0.8422)	0.7107 (0.4905)	0.8997** (0.3946)	0.9765** (0.3921)
*Ln*GPR	0.9955 (1.8793)	0.1369 (1.2407)	0.8865 (2.6973)	1.0456 (1.5708)	1.1292 (1.2682)	1.1632 (1.2599)
*Ln*EPU	2.8739* (1.6273)	0.9121 (1.0743)	2.1474* (2.3413)	3.2076** (1.3637)	3.7646*** (1.0969)	3.9911*** (1.0900)
GAD	−0.0537 (0.0983)	−0.0066 (0.0649)	−0.0483 (0.1411)	−0.0561 (0.0822)	−0.0602 (0.0663)	−0.0618 (0.0659)
EAD	-0.1430* (0.0817)	-0.0465 (0.0539)	−0.1059 (0.1175)	−0.1601 (0.0684)	−0.01885*** (0.0550)	−0.2001*** (0.0547)
Constant	−12.5003 (11.3578)	−5.7793 (7.4983)	−7.8970 (16.3354)	−14.6143 (9.5147)	−18.14373** (7.6570)	−19.5790** (7.6083)
Observations		()	()	()	()	

Note: ***, ** and * delineate the 1%, 5% and 10% statistical levels of significance. Standard errors are in (). **Legend**: SD-Sustainable development; FVA-Foreign value added, GPR-Geopolitical risks; EPU-Economic policy uncertainty, GAF-geopolitical risks-augmented foreign value added, EAF-Economic policy uncertainty-augmented foreign value-added, GAD-Geopolitical risks-augmented domestic value-added, EAD-Economic policy uncertainty-augmented domestic value-added.

impact on the stimulation of SD across the q.25 to q.95 range. The inefficacious influence of these precarious parameters can be attributed to the intricate B2B arrangements implemented by these economies to maintain stability in the flow of goods and services, which has enabled them to successfully overcome macro-environmental shocks arising out of geopolitical uncertainties. Furthermore, the judicious and practical business-oriented activities of these countries have bolstered B2B marketing strategies to augment industrial value. Additionally, we have discovered that economic policy uncertainty (EPU) holds a positive sway over SD in all quantiles (q.25-q.95), while economic policy

Table 8
Industrial value-added, risks-driven value-added and sustainable development in BRICS countries.

Variables	Location	Scale	q.25	q.50	q.75	q.95
Model 9: $Q_{SD}\ (FVA, GPR, EPU, GAR, EAF) = \alpha + \bar{X}(FVA, GPR, EPU, GAR, EAF)\beta + \sigma(\delta + \bar{Z}\gamma)q(\tau)$						
*Ln*FVA	0.5575*** (0.1633)	−0.0750 (0.0864)	0.6285*** (0.2110)	0.5467*** (0.1592)	0.4878*** (0.1490)	0.4436*** (0.1613)
*Ln*GPR	0.1862 (0.5058)	0.2403 (0.2677)	−0.0412 (0.6534)	0.2210 (0.4933)	0.4097 (0.4613)	0.5513 (0.4993)
*Ln*EPU	1.9576*** (0.3635)	−0.4913** (0.1924)	2.4227*** (0.4696)	1.8863*** (0.3662)	1.5007*** (0.3308)	1.2111*** (0.3557)
GAF	−0.0119 (0.0305)	−0.0146 (0.0161)	0.0019 (0.0394)	−0.0140 (0.0298)	−0.0255 (0.0278)	−0.0341 (0.0301)
EAF	−0.1123*** (0. 0.0210)	−0.0277** (0.0111)	−0.1386*** (0.0272)	−0.1083*** (0.0211)	−0.0865*** (0.0191)	−0.0702*** (0.0206)
Constant	−10.0233*** (2.7189)	1.4789 (1.4392)	−11.4231*** (3.5121)	−9.8088*** (2.6542)	−8.6481*** (2.4797)	−7.7767*** (2.6838)
Model 10: $Q_{SD}\ (DVA, GPR, EPU, GAD, EAD) = \alpha + \bar{X}(DVA, GPR, EPU, GAD, EAD)\beta + \sigma(\delta + \bar{Z}\gamma)q(\tau)$						
*Ln*DVA	0.4931*** (0.1765)	−0.0706 (0.0925)	0.5606** (0.2316)	0.4760*** (0.1677)	0.4287*** (0.1557)	0.3866** (0.1653)
*Ln*GPR	−0.0183 (0.6203)	0.3443 (0.3250)	−0.3471 (0.81394)	0.0652 (0.5909)	0.2959 (0.5469)	0.5010 (0.5800)
*Ln*EPU	2.1314*** (0.4222)	−0.5956*** (0.2212)	2.7002*** (0.5539)	1.9868*** (0.41561)	1.5879*** (0.3712)	1.2331*** (0.3880)
GAD	0.0004 (0.0337)	−0.0188 (0.0176)	0.0184 (0.0442)	−0.0040 (0.0321)	−0.0166 (0.0297)	−0.0278 (0.0315)
EAD	−0.1102*** (0.0221)	0.0307*** (0.0116)	−0.1396*** (0.0290)	−0.1027*** (0.0217)	−0.0821*** (0.0194)	−0.0638*** 0.0203)
Constant	−9.9027*** (3.2576)	1.5279 (1.7069)	−11.36174*** (4.274489)	−9.5318*** (3.0973)	−8.5085*** (2.8724)	−7.5982** (3.0493)
Observations	150	150	150	150	150	150

Note: ***, ** and * delineate the 1%, 5% and 10% statistical levels of significance. Standard errors are in (). **Legend**: SD-Sustainable development; FVA-Foreign value added, GPR-Geopolitical risks; EPU-Economic policy uncertainty, GAF-geopolitical risks-augmented foreign value added, EAF-Economic policy uncertainty-augmented foreign value-added, GAD-Geopolitical risks-augmented domestic value-added, EAD-Economic policy uncertainty-augmented domestic value-added.

uncertainty-augmented foreign value added (EAF) bears a negative influence on SD within the q.75 to q.95 range, and economic policy uncertainty augmented domestic value added (EAD) in the entire range of quantiles (q.25-q.95). The beneficial impacts of EPU progressively increase in an incremental manner across all quantiles owing to the effective policy measures taken by these governments concerning business and marketing dynamics, aimed at strengthening SD. However, the deleterious effects of EAF and EAD arise due to disruptions in B2B marketing strategies, impeding the free flow of foreign and domestic industrial goods and services, thus retarding green industrial development, and hampering SD in G7 economies. The lack of significant impact of EAF and EAD within the lower range of quantiles (q.25-q.50) is likely traceable to policy-related economic uncertainties, which held only a trifling effect on these countries' sustainable development (SD).

Table 8 depicts the effect of B2B marketing-driven industrial value-added, risks-augmented industrial value-added on sustainable development in the case of BRICS economies. Models 9 and 10 under the quantiles via moments framework encompass $Q_{SD}\ (FVA|DVA, GPR, EPU, GAR, EAF) = \alpha + \acute{X}(FVA|DVA, GPR, EPU, GAR, EAF)\beta + \sigma(\delta + \acute{Z}\gamma)q\ (\tau)$. We consider the sustainable development (SD) index as the dependent variable in these two models. Our independent variables include foreign value-added (FVA) and domestic value-added (DVA), geopolitical risks (*GPR*), economic policy uncertainty (*EPU*), geopolitical risks-augmented foreign value-added (GAF) and domestic value-added (GAD), economic policy uncertainty-augmented foreign value-added (EAF) and domestic value-added (EAD) for these BRICS economies.

Our findings from the quantiles via moments in Table 8 divulge that FVA and DVA significantly and monotonically impact sustainable development (SD) at entire quantiles (q.50-q.95). Our findings propose that the augmentation of industrial value-added of foreign and domestic nature through B2B marketing strategies assists in mitigating poverty and bolstering income-generating sectors to create employment opportunities within BRICS countries. Of particular significance, the impact of these two dynamics, namely FVA and DVA, evolves in a descending gradient from lower to upper quantiles, indicating an incremental decline in their potential to stimulate sustainable development in the BRICS nations.

The findings also suggest that from quantiles q.25 to q.95, neither GPR nor GAF exert any impact on sustainable development. Such results emphasize the pivotal role of relevant institutions in safeguarding the unimpeded flow of goods and materials based on B2B marketing strategies among businesses operating within the BRICS economies. Additionally, the results reveal a favorable effect of EPU on SD and an unfavorable impact of EAF and EAD on SD across all quantiles (q.25-q.95). According to our findings, the salutary impact of EPU results from the judicious measures implemented by policymakers to harness the potential of pertinent macroeconomic determinants that are germane to sustainable development. However, the deleterious effects of EAF and EAD manifest as impediments to the movement of domestic and foreign industrial goods that are vital in ameliorating poverty and fostering job creation. This state of affair poses a significant obstacle to the prospects of sustainable development in BRICS economies. What's more, the adverse effect of these risk factors, EAF and EAD, weaken substantially from upper to extreme quantiles, thus denoting a dwindling potential for steering sustainable development in BRICS nations.

5. Discussion

The insights garnered from our study are noteworthy as they assess the role of B2B marketing in augmenting industrial value-added processes and sustainable development during times of global economic and geopolitical uncertainties. Overall, our findings indicate that geopolitical risks do not play a significant role in fostering industrial value-added and promoting sustainable development in G20 and G7 countries. However, in the case of BRICS countries, these risks exert an adverse influence on industrial value-added. In light of these results, it is clear that it is crucial to have strong institutional support to avert B2B marketing-induced disruptions and achieve sustainable development. Moreover, these institutions must adopt prudent policy measures to encourage B2B marketing activities that promote green marketing goods usage in industries and households - a key step towards promoting environmental sustainability in these influential global conglomerates.

From a coevolutionary perspective advocated by Witt, Li, Välikangas, and Lewin (2021), it is feasible to elucidate the institutional value-added related to B2B marketing performance, thereby providing insight into mitigation mechanisms geared towards B2B disruptions. These authors also contend that swift environmental changes, exemplified by the trade war between the US and China, may result from coevolution. At all levels, from global to local, institutions coevolve within and across borders to adapt to changing scenarios - political, social, and business entities within these institutions must coevolve, in order to sustain themselves in the face of crises, particularly in the context of advanced economies such as the G20 and G7 blocs. Nevertheless, institutional coevolution involving distinct social, political, and business forces is non-adaptive in the case of BRICS economies, which impedes B2B collaboration, resulting in B2B marketing disruptions and hindering industrial value-added in various sectors within these economies. Lewin and Volberda (1999) noteworthy study underscores the need for institutions to coevolve alongside businesses, and micro and macro-level institutions to facilitate optimal B2B marketing operations and to promote sustainable development.

Our study's findings regarding the negligible influence of geopolitical risks on industrial value-added and sustainable development fostered by B2B marketing, across global conglomerates such as G20, G7, and BRICS, align with previous research that posits B2B marketing disruption as a crisis caused by militarization, nuclear threats, war, and terrorization. Earlier studies also underscore the possibility presented by disruptions to encourage businesses to innovate and develop novel capabilities (Blessley & Mudambi, 2022; Chesbrough, 2020; Kumar, Borah, Sharma, & Akella, 2021). For instance, the U.S.-China trade war has had deleterious consequences for many B2B suppliers and customers who operate within or between these two countries, creating a novel liability associated with international marketplaces' country-of-origin (Tan & Yang, 2021). Nonetheless, the macro-environmental changes resulting from geopolitical risk events have provided B2B marketing participants the opportunity to restructure their business networks in a dynamic way to surmount obstacles in the volatile global market (Gao, Melero-Polo, Ruz-Mendoza, & Trifu, 2022). Ultimately, such efforts contribute to sustainable development by promoting poverty alleviation, reducing inequality and unemployment, and promoting environmental sustainability (Voola et al., 2022).

The results of our study revealed a noteworthy positive association between economic policy uncertainty and B2B marketing's industrial value-added approached from the sustainability perspective across all selected global blocs, i.e., G20, G7, and BRICS. The Chaos theory aptly explains our findings and provides a crucial point of view for understanding B2B marketing disruptions and industrial value-added (Kumar et al., 2021). This theory, first introduced in mathematics and physics by Edward Lorenz in 1963, attracted scholarly attention in business and economics (Kiel & Elliott, 1997; Knight, Mitchell, & Gao, 2009; Levy, 1994). As the world's markets become increasingly turbulent, uncertain, complex, and ambiguous, this theory has piqued the interest of experts in marketing, management, and international business (Ahlstrom et al., 2020). In light of the chaos stemming from geopolitical risks, B2B marketing firms can apply strategic policy measures to promote industrial growth and sustainable development within economic and societal frameworks. Chaos theory reveals that even minor systemic changes can have far-reaching and profound effects (Thietart & Forgues, 1995). For instance, the initial bilateral conflict between the United States and China on trade matters ballooned into a widespread dispute affecting nearly all aspects of investment, technology, and media (Witt et al., 2021).

The parameters of purchasing power parity (PPP) and exchange rate volatility represent two significant factors in economic policy uncertainty. In response to these challenges, the economic blocs of G20, G7, and BRICS implemented contractionary monetary policies to combat inflation. Although these measures have resulted in the substantial value of money, thereby facilitating viable marketing networks, and promoting industrial development, our research demonstrates that economic policy decay based on dynamics in the industrial sector has hindered sustainable development within these economies. Despite experiencing minimal disruptions due to B2B marketing uncertainty, our study findings suggest that augmented industrial value-added caused by economic policy uncertainty can impede B2B marketing outcomes and inhibit sustainable development in these regions.

Our study's findings support previous research in the field. For instance, institutions within both the public and private sectors play a crucial role in fostering interconnectivity among B2B stakeholders (Kalubanga & Gudergan, 2022; Sheffi & Rice Jr, 2005). Scholars investigating the impact of business partner reliance on the management of B2B disruptions have articulated a range of perspectives. While some argue that supplier dependence can lead to disruptions and hinder a company's ability to respond and recover (Bode & Macdonald, 2017), others contend that effective collaboration between B2B buyers and suppliers, with a focus on fostering meaningful cooperation, exchanging information and tailored investments can help them tackle B2B disruptions and promote speedy recovery (Scholten & Schilder, 2015). Supporting this view, Kalubanga and Gudergan (2022) argue that dynamic institutional capacities can significantly enhance supply chain management capabilities and encourage market proliferation, thereby fostering sustainable economic development.

6. Implications and conclusion

The present study makes a significant contribution to the existing B2B marketing literature, providing empirical evidence on the impact of macro-environmental conditions (specifically, geopolitical risks and economic policy uncertainty) on B2B marketing disruptions and how such disruptions impede industrial value-added and sustainable development. By analyzing panel data spanning from 1990 to 2019, our study sheds light on the macro-environmental context, offering practical insights into how B2B marketing-driven industrial value-added and sustainable development can be influenced proactively for dominant global blocs like G20, G7, and BRICS.

We employ the quantiles via moments to analyze data from these economic blocs, while also accounting for country and region-specific disparities. Our findings indicate that while geopolitical risks have no significant negative impact on industrial value-added resulting from B2B marketing operations in G20 and G7 blocs, the BRICS alliance suffer from the negative consequences of the phenomenon across all quantiles. Furthermore, economic policy uncertainty has a monotonic, positive influence on all quantiles for all three blocs, while B2B marketing-driven industrial value-added (both foreign and domestic) promotes sustainable development. Moreover, our study finds that while geopolitical risks and these risks-augmented industrial value-added have no significant effect, economic policy uncertainty-augmented industrial value-added hampers sustainable development in these economies.

The robustness of our study's findings is owed to our careful consideration of industrial value-added, which encompasses both foreign and domestic value-added that result from B2B marketing operations. Moreover, our theoretical and empirical foundation of B2B marketing disruptions, arising from the impact of geopolitical risk events and economic policy uncertainty, is a significant value-addition to the existing literature on industrial marketing management, given the detrimental effect these disruptions have on B2B marketing-laden industrial value-added. Lastly, our development of insights that center around the two variables - namely, geopolitical risks and economic policy uncertainty-augmented industrial value-added - constitutes another essential contribution to the knowledge base of B2B marketing management. This is a crucial contribution to the field, as research focused on these macro-environmental variables in the context of B2B marketing is notably scarce.

The implications of our findings are significant, predominantly surrounding the development of mitigation strategies aimed at extenuating the disruptive effects of macro-environmental variables such as geopolitical risks and economic policy uncertainty, particularly in the realm of B2B marketing. First and foremost, it is essential to cope with disruptions created by unexpected circumstances that might be beyond the control of B2B partners. Second, a firm's dynamic management capability (DMC) presents a valuable tool in controlling B2B disruptions, which can help augment industrial value-added and promote sustainable economic growth. Third, the impact of disruptions is disproportionately higher on businesses that fail to apprehend and promptly respond to macro-environmental transitions. As some firms are more farsighted and efficiently prepared than others for geopolitical cataclysms, due to their perceptiveness towards worst-case scenarios and their competence in discerning early signs of conflicts and risky events, it's crucial to foster swift and accurate processing of disruption-related knowledge within firms.

Moreover, disruptions and turbulence in macro-environments can create dysfunctionality in standard qualifications materialized by interdependent B2B counterparts, which necessitates the need for B2B marketers to be mindful of macro-environmental conditions. By learning from these empirical insights, firms can handle turbulence and disruptions in their marketing strategies, facilitating sustainable marketing management. Additionally, our macro-environmental empirical insights can be instrumental in augmenting firm-level strategies aimed at developing innovative B2B services by leveraging and reinforcing social linkages with industry partners to address sudden macro-environmental changes. Lastly, every economy, notably BRICS, should utilize the potential of their relevant institutions in deterring B2B marketing disruptions stemming from the impact of geopolitical risk events and economic policy-relevant uncertainties.

One of the limitations of this study is that it does not account for the impact of the Russia-Ukraine war, which commenced in February of 2022. As a result, it would be worthwhile for future studies to explore how B2B marketers can exert their influence on their B2B networks to co-evolve with the shifting dynamics of the post-war macro-environment.

CRediT authorship contribution statement

Riad Shams: Conceptualization, Project administration, Resources, Supervision, Writing – original draft, Writing – review & editing. **Kazi Sohag:** Data curation, Formal analysis, Methodology, Writing – original draft. **Md. Monirul Islam:** Formal analysis, Validation. **Demetris Vrontis:** Resources, Writing – review & editing. **Masaaki Kotabe:** Writing – review & editing. **V. Kumar:** Writing – review & editing.

Declaration of competing interest

None.

Data availability

The authors do not have permission to share data.

Appendix 1. Movement of industrial value-added (FVA and DVA) in G20 (Fig. 5), G7 (Fig. 6) and BRICS economies (Fig. 7)

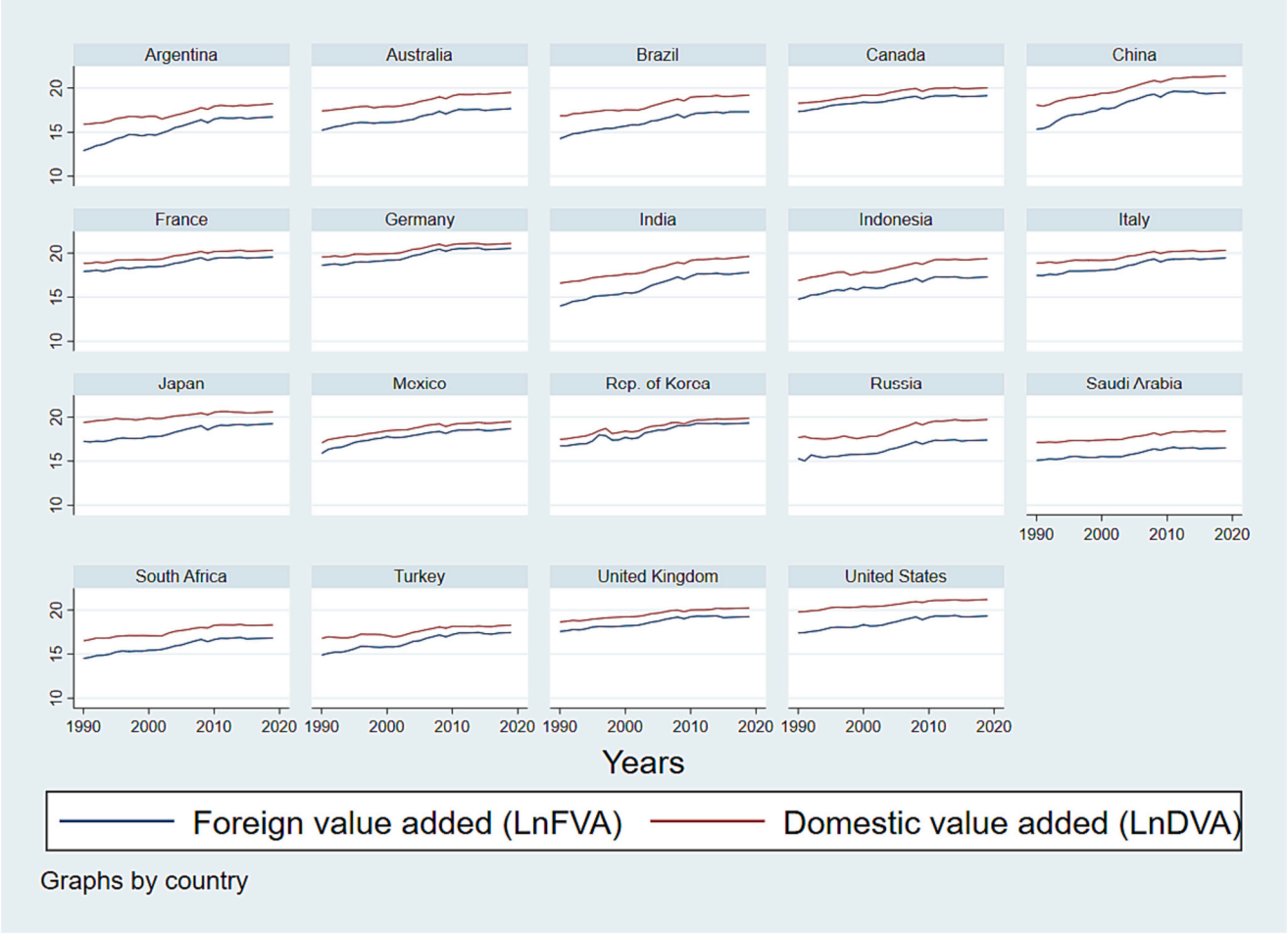

Fig. 5. Movement of foreign and domestic value added in G20 countries.

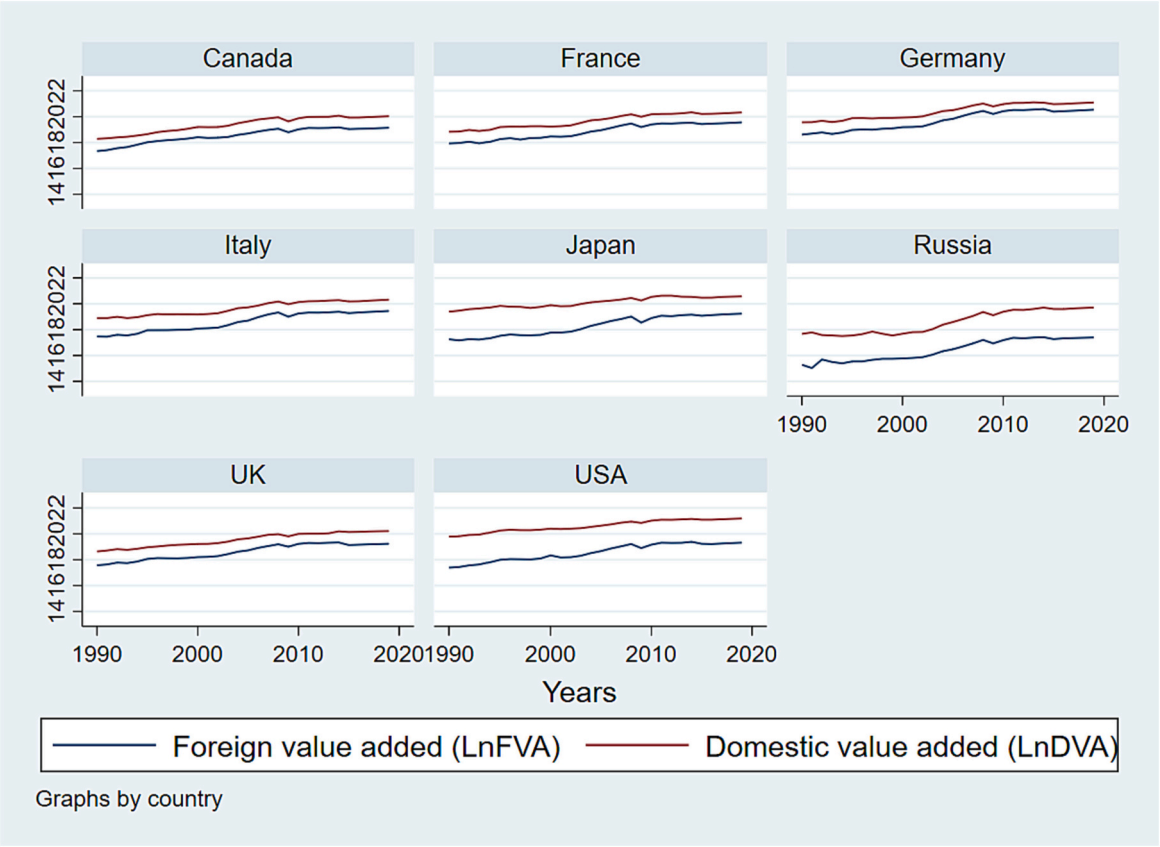

Fig. 6. Movement of foreign and domestic value added in G7 countries.

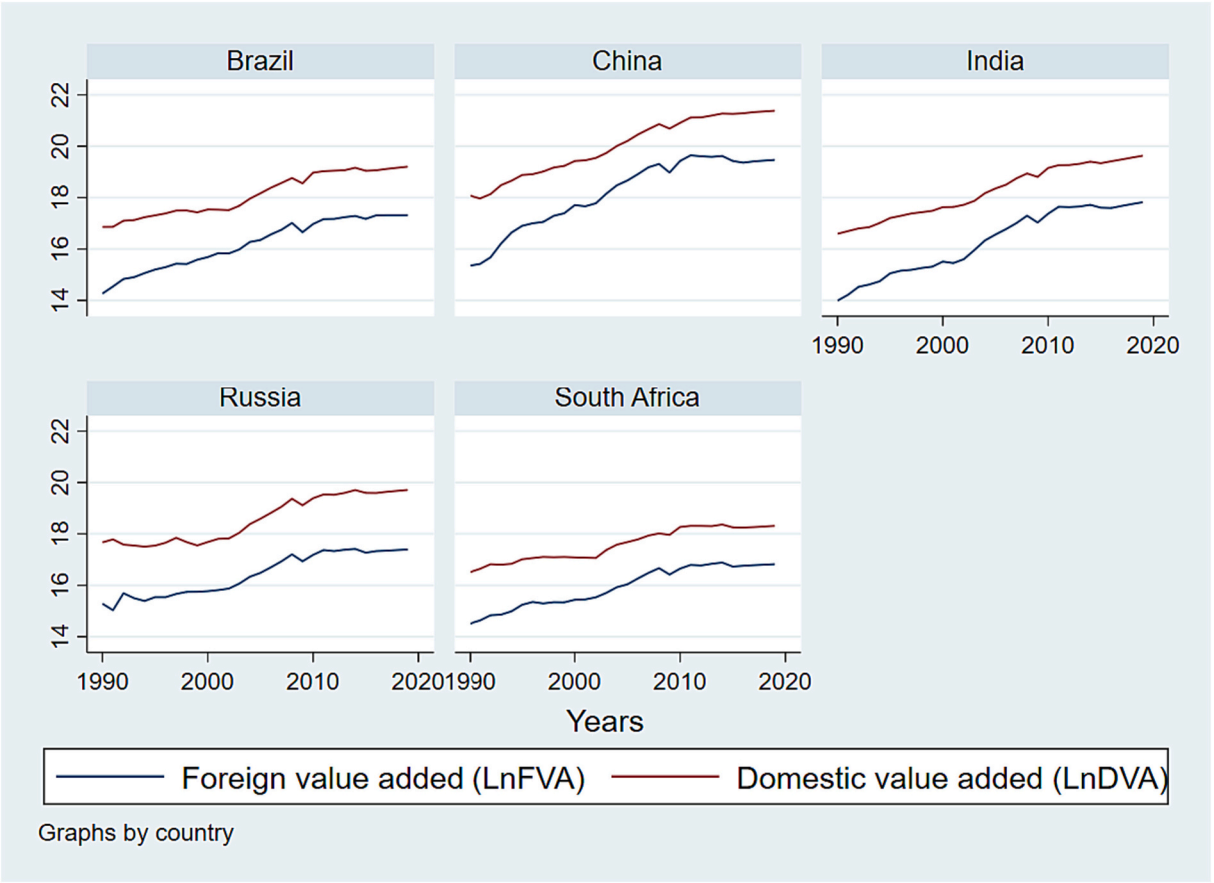

Fig. 7. Movement of foreign and domestic value added in BRICS countries.

Appendix 2

$$E(U) = 0 \; and \; E(|V|) = 1 \tag{4}$$

$$Q_y(\tau|X) = \alpha + X'\beta + \sigma(\delta + Z'\gamma)q(\tau) \tag{5}$$

Where $q(\tau) = F_U^{-}(\tau)$, so $Pr(U < q(\tau)) = r$

$$Q_y(\tau|X) = \alpha + \delta q(\tau) + X'(\beta + \gamma q(\tau)) \tag{6}$$

$$\beta_l(\tau, X) = \beta_l + q(\tau)D_{x_l}^{\sigma} \tag{7}$$

$$D_{x_l}^{\sigma} = \frac{\partial \sigma(\delta + Z'\gamma)}{\partial B} \tag{8}$$

$$E[RX] = 0$$

$$E[R] = 0$$

$$E\left[(|R| - \sigma(\delta + Z'\gamma))D_{\gamma}^{\sigma}\right] = 0 \tag{9}$$

$$E\left[(|R| - \sigma(\delta + Z'\gamma))D_{\delta}^{\sigma}\right] = 0$$

$$E[I(R \le q(\tau)\sigma(\delta + Z'\gamma)) - \tau] = 0$$

$$R = Y - (\alpha - X'\beta) = \sigma(\delta + C\gamma)U \tag{10}$$

$$D_{\gamma}^{\sigma} = \frac{\partial \sigma(\delta + Z'\gamma)}{\partial \gamma} \tag{11}$$

$$D_{\delta}^{\sigma} = \frac{\partial \sigma(\delta + Z^{'}\sigma)}{\partial \delta} \tag{12}$$

$$E[UX] = 0$$

$$E[U] = 0$$

$$E\left[(|U| - 1)D_{\gamma}^{\sigma}\right] = 0 \tag{13}$$

$$\left[(|U| - 1)D_{\delta}^{\sigma}\right] = 0$$

$$E[I(U < q(\tau)) - \tau] = 0$$

$$U = \frac{Y - (\alpha + X^{'}\beta)}{\sigma(\delta + Z^{'}\gamma)} \tag{14}$$

$$Y = D_{\beta_D}^{'} + C_1^{'}\beta_1 + \sigma\left(D^{'\gamma_D} + C_1^{'}\gamma_1\right)U \tag{15}$$

$$D_l = \mathscr{D}_l(C_1, C_2, U^{*}) for\ l = 1, \ldots k_D \tag{16}$$

Where, $\mathscr{D}_l(\,) : \mathbb{R}^{k_1+k_2+1} \rightarrow \mathbb{R}, \sigma(\,)$

Let's have, $X^{'} = (D^{'}, C_1), C^{'} = \left(C_1^{'}, C_2^{'}\right), \hat{\beta} = \left(\beta_D^{'}, \beta_1^{'}\right)$ and $\gamma^{'} = \left(\gamma_D^{'}, \gamma_l^{'}\right)$

$$Pr\left\{Y \leq S_y(\tau|X)\right\} = Pr\left\{Y \leq S_y(\tau|X)\,|C\right\} = \tau \tag{17}$$

$$S_y(\tau|C) = X^{'}B + \sigma(\acute{Y}\gamma)q(\tau) \tag{18}$$

$$\frac{1}{\sqrt{n}}\sum_{1}^{n} C_i\left(\frac{Y_i - X_i^{'}\widehat{\beta}}{\sigma(\acute{X}_i\widehat{\gamma})}\right) = 0 \tag{19}$$

$$\frac{1}{\sqrt{n}}\sum_{1}^{n} C_i\left(\frac{|Y_i - B_i^{'}\widehat{\theta}|}{\sigma(\acute{X}_i\widehat{\gamma})} - 1\right) = o_p \tag{20}$$

$$\frac{1}{\sqrt{n}}\sum_{1}^{n} \psi_i\left(\frac{|Y_i - X_i^{'}\widehat{\beta}|}{\sigma(\acute{X}_i\widehat{\gamma})} - 1\right) = o_p(1) \tag{21}$$

References

Aarikka-Stenroos, L., & Ritala, P. (2017). Network management in the era of ecosystems: Systematic review and management framework. *Industrial Marketing Management, 67*, 23–36. https://doi.org/10.1016/j.indmarman.2017.08.010

Ahir, H., Bloom, N., & Furceri, D. (2022). The world uncertainty index. *National Bureau of Economic Research., No. w29763*. Retrieved from https://www.nber.org/papers/w29763.

Ahlstrom, D., Arregle, J., Hitt, M. A., Qian, G., Ma, X., & Faems, D. (2020). Managing technological, sociopolitical, and institutional change in the new normal. *Journal of Management Studies, 57*(3), 411–437. https://doi.org/10.1111/joms.12569

Al Mamun, M., Uddin, G. S., Suleman, M. T., & Kang, S. H. (2020). Geopolitical risk, uncertainty and bitcoin investment. *Physica A: Statistical Mechanics and its Applications, 540*, Article 123107. https://doi.org/10.1016/j.physa.2019.123107

Aslam, A., Novta, N., & Rodrigues-Bastos, F. (2017). *Calculating trade in value added.* International Monetary Fund.

Baker, S. R., Bloom, N., & Davis, S. J. (2016). Measuring economic policy uncertainty. *The Quarterly Journal of Economics, 131*(4), 1593–1636. https://doi.org/10.1093/qje/qjw024

Barth, J. R., Li, T., McCarthy, D., Phumiwasana, T., & Yago, G. (2006). *Economic impacts of global terrorism: From Munich to Bali.* Available at SSRN 892033.

Bassett, G. W., & Koenker, R. W. (1986). Strong consistency of regression quantiles and related empirical processes. *Econometric Theory, 2*(2), 191–201. https://doi.org/10.1017/S0266466600011488

Blessley, M., & Mudambi, S. M. (2022). A trade way and a pandemic: Disruption and resilience in the food bank supply chain. *Industrial Marketing Management, 102*, 58–73. https://doi.org/10.1016/j.indmarman.2022.01.002

Bode, C., & Macdonald, J. R. (2017). Stages of supply chain disruption response: Direct, constraining, and mediating factors for impact mitigation. *Decision Sciences, 48*(5), 836–874. https://doi.org/10.1111/deci.12245

Bolton, M. (2021). Public sector understanding of sustainable development and the sustainable development goals: A case study of Victoria, Australia. *Current Research in Environmental Sustainability, 3*, 100056.

Bratti, M., & Felice, G. (2012). Are exporters more likely to introduce product innovations? *The World Economy, 35*(11), 1559–1598. https://doi.org/10.1111/j.1467-9701.2012.01453.x

Buchinsky, M. (1994). Changes in the US wage structure 1963-1987: Application of quantile regression. *Econometrica: Journal of the Econometric Society*, 405–458.

Bureau of Economic Analysis. (2006). What is industry value added? U.S. Department of Commerce. https://www.bea.gov/help/faq/184.

Cade, B. S., & Noon, B. R. (2003). A gentle introduction to quantile regression for ecologists. *Frontiers in Ecology and the Environment, 1*(8), 412–420. https://doi.org/10.1890/1540-9295(2003)001[0412:AGITQR]2.0.CO;2

Caldara, D., & Iacoviello, M. (2016). Measuring geopolitical risk. *Working Paper.*. https://doi.org/10.1257/aer.20191823

Caldara, D., & Iacoviello, M. (2022). Measuring geopolitical risk. *American Economic Review, 112*(4), 1194–1225. https://doi.org/10.1257/aer.20191823

Chamberlain, G. (1994). Quantile regression, censoring, and the structure of wages. *Advances in Econometrics: Sixth World Congress, 2*, 171–209.

Chandy, R. K., Johar, G. V., Moorman, C., & Roberts, J. H. (2021). Better marketing for a better world. *Journal of Marketing, 85*(3), 1–9. SAGE Publications Sage CA: Los Angeles, CA https://doi.org/10.1177/00222429211003690.

Chen, J., Jin, F., Ouyang, G., Ouyang, J., & Wen, F. (2019). Oil price shocks, economic policy uncertainty and industrial economic growth in China. *PLoS One, 14*(5), Article e0215397.

Chernov, D., & Sornette, D. (2020). Critical risks of different economic sectors. *Based on the Analysis of More Than, 500*. https://doi.org/10.1007/978-3-030-25034-8

Chernozhukov, V., Fernández-Val, I., & Galichon, A. (2010). Quantile and probability curves without crossing. *Econometrica, 78*(3), 1093–1125. https://doi.org/10.3982/ECTA7880

Chernozhukov, V., & Hansen, C. (2008). Instrumental variable quantile regression: A robust inference approach. *Journal of Econometrics, 142*(1), 379–398. https://doi.org/10.1016/j.jeconom.2007.06.005

Chesbrough, H. (2020). To recover faster from Covid-19, open up: Managerial implications from an open innovation perspective. *Industrial Marketing Management, 88*, 410–413. https://doi.org/10.1016/j.indmarman.2020.04.010

Chopra, S., & Sodhi, M. S. (2004). Supply-chain breakdown. *MIT Sloan Management Review, 46*(1), 53–61.

Christensen, C. M. (1997). Marketing strategy: Learning by doing. *Harvard Business Review, 75*(6), 141–151. link.gale.com/apps/doc/A20158673.

Constantinescu, C., Mattoo, A., & Ruta, M. (2020). Policy uncertainty, trade and global value chains: Some facts, many questions. *Review of Industrial Organization, 57*, 285–308. https://doi.org/10.1007/s11151-020-09772-0

Craighead, C. W., Blackhurst, J., Rungtusanatham, M. J., & Handfield, R. B. (2007). The severity of supply chain disruptions: Design characteristics and mitigation capabilities. *Decision Sciences, 38*(1), 131–156. https://doi.org/10.1111/j.1540-5915.2007.00151.x

Czinkota, M., Kaufmann, H. R., & Basile, G. (2014). The relationship between legitimacy, reputation, sustainability and branding for companies and their supply chains. *Industrial Marketing Management, 43*(1), 91–101. https://doi.org/10.1016/j.indmarman.2013.10.005

Falkenreck, C., & Wagner, R. (2017). The Internet of Things–Chance and challenge in industrial business relationships. *Industrial Marketing Management, 66*, 181–195. https://doi.org/10.1016/j.indmarman.2017.08.007

Fiksel, G., Agliata, A., Barnak, D., Brent, G., Chang, P.-Y., Folnsbee, L., Gates, G., Hasset, D., Lonobile, D., & Magoon, J. (2015). Note: Experimental platform for magnetized high-energy-density plasma studies at the omega laser facility. *Review of Scientific Instruments, 86*(1), 16105. https://doi.org/10.1063/1.4905625

Fiksel, J. (2015). From risk to resilience. In *Resilient by design* (pp. 19–34). Springer. https://doi.org/10.5822/978-1-61091-588-5_2.

Gao, L., Melero-Polo, I., Ruz-Mendoza, M.Á., & Trifu, A. (2022). Exploring the role of service touchpoints on the path to financial, behavioral and relational customer outcomes: insights from a B2B service context. *Journal of Business & Industrial Marketing, 37*(11), 2260–2277.

Gereffi, G., Lim, H.-C., & Lee, J. (2021). Trade policies, firm strategies, and adaptive reconfigurations of global value chains. *Journal of International Business Policy, 4*(4), 506–522. https://doi.org/10.1057/s42214-021-00102-z

Grewal, R., Lilien, G. L., Petersen, J. A., & Wuyts, S. (2022). Business-to-business marketing: Looking back, looking forward. In *Handbook of business-to-business marketing* (pp. 2–11). Edward Elgar Publishing.

Gulen, H., & Ion, M. (2016). Policy uncertainty and corporate investment. *The Review of Financial Studies, 29*(3), 523–564. https://doi.org/10.1093/rfs/hhv050

Gur, N., & Dilek, S. (2023). US–China economic rivalry and the reshoring of global supply chains. *The Chinese Journal of International Politics, 16*(1), 61–83. https://doi.org/10.1093/cjip/poac022

He, X. (1997). Quantile curves without crossing. *The American Statistician, 51*(2), 186–192. https://doi.org/10.1080/00031305.1997.10473959

Helfat, C. E., & Winter, S. G. (2011). Untangling dynamic and operational capabilities: Strategy for the (N) ever-changing world. *Strategic Management Journal, 32*(11), 1243–1250. https://doi.org/10.1002/smj.955

Hickel, J. (2020). The sustainable development index: Measuring the ecological efficiency of human development in the anthropocene. *Ecological Economics, 167*, Article 106331. https://doi.org/10.1016/j.ecolecon.2019.05.011

Hoque, M. T., Nath, P., Ahammad, M. F., Tzokas, N., & Yip, N. (2022). Constituents of dynamic marketing capability: Strategic fit and heterogeneity in export performance. *Journal of Business Research, 144*, 1007–1023. https://doi.org/10.1016/j.jbusres.2022.02.011

IMF. (2020). World economic outlook databases. https://www.imf.org/en/Publications/SPROLLS/world-economic-outlook-databases#sort=%40imfdatedescending.

Islam, et al. (2023). Geopolitical risks and mineral-driven renewable energy generation in China: A decomposed analysis. *Resources Policy, 80*(103229). https://doi.org/10.1016/j.resourpol.2022.103229. https://www.sciencedirect.com/science/article/pii/S0301420722006729

Jeong, I., Jean, R. J. B., Kim, D., & Samiee, S. (2022). Managing disruptive external forces in international marketing. *International Marketing Review*. https://doi.org/10.1108/IMR-12-2021-0381

Ju, M., Murray, J. Y., Kotabe, M., & Gao, G. Y. (2011). Reducing distributor opportunism in the export market: Effects of monitoring mechanisms, norm-based information exchange, and market orientation. *Journal of World Business, 46*(4), 487–496. https://doi.org/10.1016/j.jwb.2010.10.009

Kaleka, A., & Morgan, N. A. (2017). Which competitive advantage (s)? Competitive advantage–market performance relationships in international markets. *Journal of International Marketing, 25*(4), 25–49. https://doi.org/10.1509/jim.16.0058

Kaleka, A., & Morgan, N. A. (2019). How marketing capabilities and current performance drive strategic intentions in international markets. *Industrial Marketing Management, 78*, 108–121. https://doi.org/10.1016/j.indmarman.2017.02.001

Kalubanga, M., & Gudergan, S. (2022). The impact of dynamic capabilities in disrupted supply chains—The role of turbulence and dependence. *Industrial Marketing Management, 103*, 154–169. https://doi.org/10.1016/j.indmarman.2022.03.005

Kiel, L. D., & Elliott, E. W. (1997). *Chaos theory in the social sciences: Foundations and applications*. University of Michigan Press.

Knight, J. G., Mitchell, B. S., & Gao, H. (2009). Riding out the Muhammad cartoons crisis: Contrasting strategies and outcomes. *Long Range Planning, 42*(1), 6–22. https://doi.org/10.1016/j.lrp.2008.11.002

Koenker, R., & Hallock, K. F. (2001). Quantile regression. *Journal of Economic Perspectives, 15*(4), 143–156. https://doi.org/10.1257/jep.15.4.143

Kumar, N., & Yakhlef, A. (2016). Managing business-to-business relationships under conditions of employee attrition: A transparency approach. *Industrial Marketing Management, 56*, 143–155. https://doi.org/10.1016/j.indmarman.2016.01.002

Kumar, V., Borah, S. B., Sharma, A., & Akella, L. Y. (2021). Chief marketing officers' discretion and firms' internationalization: An empirical investigation. *Journal of International Business Studies, 52*(3), 363–387. https://doi.org/10.1057/s41267-020-00378-y

Lacoste, S. (2016a). Sustainable value co-creation in business networks. *Industrial Marketing Management, 52*, 151–162.

Lacoste, S. (2016b). Perspectives on social media ant its use by key account managers. *Industrial Marketing Management, 54*, 33–43.

Lenain, P., Bonturi, M., & Koen, V. (2002). *The economic consequences of terrorism*. https://doi.org/10.1787/511778841283

Leviäkangas, P., & Molarius, R. (2020). Open government data policy and value added-evidence on transport safety agency case. *Technology in Society, 63*, Article 101389. https://doi.org/10.1016/j.techsoc.2020.101389

Levy, D. (1994). Chaos theory and strategy: Theory, application, and managerial implications. *Strategic Management Journal, 15*(S2), 167–178. https://doi.org/10.1002/smj.4250151011

Lewin, A. Y., & Volberda, H. W. (1999). Prolegomena on coevolution: A framework for research on strategy and new organizational forms. *Organization Science, 10*(5), 519–534. https://doi.org/10.1287/orsc.10.5.519

Lindgreen, A., & Di Benedetto, C. A. (2020). How to become a top business-to-business marketing scholar. In , *Vol. 86. Industrial Marketing Management* (pp. 1–11). Elsevier. https://doi.org/10.1016/j.indmarman.2020.01.014.

Machado, J. A. F., & Silva, J. M. C. S. (2019). Quantiles via moments. *Journal of Econometrics, 213*(1), 145–173. https://doi.org/10.1016/j.jeconom.2019.04.009

Maji, S. K., Laha, A., & Sur, D. (2020). Dynamic nexuses between macroeconomic variables and sectoral stock indices: Reflection from Indian manufacturing industry. *Management and Labour Studies, 45*(3), 239–269. https://doi.org/10.1177/0258042X20922076

Martin, S. L., Javalgi, R. R. G., & Ciravegna, L. (2020). Marketing capabilities and international new venture performance: The mediation role of marketing communication and the moderation effect of technological turbulence. *Journal of Business Research, 107*, 25–37. https://doi.org/10.1016/j.jbusres.2019.09.044

Matthyssens, P., Vandenbempt, K., & Weyns, S. (2009). Transitioning and co-evolving to upgrade value offerings: A competence-based marketing view. *Industrial Marketing Management, 38*(5), 504–512. https://doi.org/10.1016/j.indmarman.2008.08.008

Molenaar, C. (2022). *Demand-driven business strategy: Digital transformation and business model innovation*. Routledge.

Nagy, D., Schuessler, J., & Dubinsky, A. (2016). Defining and identifying disruptive innovations. *Industrial Marketing Management, 57*, 119–126. https://doi.org/10.1016/j.indmarman.2015.11.017

OECD. (2019). *G20 contribution to the 2030 agenda: Progress and way forward*. https://doi.org/10.1787/db84dfca-en

Olanipekun, I. O., Güngör, H., & Olasehinde-Williams, G. (2019). Unraveling the causal relationship between economic policy uncertainty and exchange market pressure in BRIC countries: Evidence from bootstrap panel granger causality. *SAGE Open, 9*(2), 2158244019853903.

Olasehinde-Williams, G., & Olanipekun, I. (2022). Unveiling the causal impact of US economic policy uncertainty on exchange market pressure of African economies. *Journal of Public Affairs, 22*(1), Article e2278. https://doi.org/10.1002/pa.2278

Olasehinde-Williams, G., Olanipekun, I., & Usman, O. (2023). Does geopolitical risk trigger energy inflation in the European economic area? *Evidence from a Panel Time-Varying Regression.*. https://doi.org/10.21203/rs.3.rs-2234181/v1

Olasehinde-Williams, G. O., & Balcilar, M. (2022). The effect of geopolitical risks on insurance premiums. *Journal of Public Affairs, 22*(1), Article e2387. https://doi.org/10.1002/pa.2387

Olsen, M. C., Slotegraaf, R. J., & Chandukala, S. R. (2014). Green claims and message frames: How green new products change brand attitude. *Journal of Marketing, 78*(5), 119–137. https://doi.org/10.1509/jm.13.0387

Pastor, L., & Veronesi, P. (2012). Uncertainty about government policy and stock prices. *The Journal of Finance, 67*(4), 1219–1264. https://doi.org/10.1111/j.1540-6261.2012.01746.x

Pástor, Ľ., & Veronesi, P. (2013). Political uncertainty and risk premia. *Journal of Financial Economics, 110*(3), 520–545. https://doi.org/10.1016/j.jfineco.2013.08.007

Pedersen, C. L., Ritter, T., & Di Benedetto, C. A. (2020). Managing through a crisis: Managerial implications for business-to-business firms. *Industrial Marketing Management, 88*, 314. doi:10.1016%2Fj.indmarman.2020.05.034.

Pham, T. S. H., Le Monkhouse, L., & Barnes, B. R. (2017). The influence of relational capability and marketing capabilities on the export performance of emerging market firms. *International Marketing Review*. https://doi.org/10.1108/IMR-07-2014-0235

Ramlall, I. (2018). *Understanding financial stability*. Emerald Group Publishing. https://doi.org/10.1108/978-1-78756-833-420181008

Revilla, E., & Sáenz, M. J. (2014). Supply chain disruption management: Global convergence vs national specificity. *Journal of Business Research, 67*(6), 1123–1135. https://doi.org/10.1016/j.jbusres.2013.05.021

Ritter, T., & Pedersen, C. L. (2020). Digitization capability and the digitalization of business models in business-to-business firms: Past, present, and future. *Industrial Marketing Management, 86*, 180–190. https://doi.org/10.1016/j.indmarman.2019.11.019

Rottig, D. (2016). Institutions and emerging markets: Effects and implications for multinational corporations. *International Journal of Emerging Markets*. https://doi.org/10.1108/IJoEM-12-2015-0248

Scholten, K., & Schilder, S. (2015). The role of collaboration in supply chain resilience. *Supply Chain Management: An International Journal.*. https://doi.org/10.1108/SCM-11-2014-0386

SDI. (2021). Sustainable development index. SDI Project https://www.sustainabledevelopmentindex.org/time-series.

Sharma, A. (2020). Sustainability research in business-to-business markets: An agenda for inquiry. *Industrial Marketing Management, 88*, 323–329. https://doi.org/10.1016/j.indmarman.2020.05.037

Sheffi, Y., & Rice, J. B., Jr. (2005). A supply chain view of the resilient enterprise. *MIT Sloan Management Review, 47*(1), 41.

Sheth, J. N. (2011). Impact of emerging markets on marketing: Rethinking existing perspectives and practices. *Journal of Marketing, 75*(4), 166–182. https://doi.org/10.1509/jmkg.75.4.166

Sila, I. (2013). Factors affecting the adoption of B2B e-commerce technologies. *Electronic Commerce Research, 13*(2), 199–236. https://doi.org/10.1007/s10660-013-9110-7

Singh, R., Sharma, Y., & Kumar, J. (2021). A road less traveled in nostalgia marketing: Impact of spiritual well-being on effects of nostalgic advertisements. *Journal of Marketing Theory and Practice, 29*(3), 289–307. https://doi.org/10.1080/10696679.2020.1836975

Sivarajah, U., Irani, Z., Gupta, S., & Mahroof, K. (2020). Role of big data and social media analytics for business to business sustainability: A participatory web context. *Industrial Marketing Management, 86*, 163–179. https://doi.org/10.1016/j.indmarman.2019.04.005

Sultana, T., Moniruzzaman, M., Shamsuddin, M., & Tareque, M. (2019). Endogenous growth model of a labour-abundant and land-scarce economy. *Journal of Social and Economic Development, 21*(2), 309–328. https://doi.org/10.1007/s40847-019-00088-8

Tan, H., & Yang, M. (2021). The new liability of origin in global decoupling. *Management and Organization Review, 17*(3), 624–629. https://doi.org/10.1017/mor.2021.40

Thietart, R.-A., & Forgues, B. (1995). Chaos theory and organization. *Organization Science, 6*(1), 19–31. https://doi.org/10.1287/orsc.6.1.19

Tsao, Y.-C., Raj, P. V. R. P., & Yu, V. (2019). Product substitution in different weights and brands considering customer segmentation and panic buying behavior. *Industrial Marketing Management, 77*, 209–220. https://doi.org/10.1016/j.indmarman.2018.09.004

Ulaga, W., & Chacour, S. (2001). Measuring customer-perceived value in business markets: A prerequisite for marketing strategy development and implementation. *Industrial Marketing Management, 30*(6), 525–540. https://doi.org/10.1016/S0019-8501(99)00122-4

UNCC. (2019). *30 Business leaders join un push to scale up private sector investment for sustainable development*. Retrieved from https://unfccc.int/news/30-business-leaders-join-un-push-to-scale-up-private-sector-investment-for-sustainable-development.

UNCTAD. (2022). *UNCTAD-Eora global value chain database*. KGM & Associates Pty. Ltd. https://www.worldmrio.com/unctadgvc/.

Van Phuc, N., & Duc, V. H. (2021). Macroeconomics determinants of exchange rate pass-through: New evidence from the Asia-Pacific region. *Emerging Markets Finance and Trade, 57*(1), 5–20. https://doi.org/10.1080/1540496X.2018.1534682

Vargo, S. L., & Lusch, R. F. (2016). Institutions and axioms: an extension and update of service-dominant logic. *Journal of the Academy of marketing Science, 44*, 5–23.

Vesal, M., Siahtiri, V., & O'Cass, A. (2021). Strengthening B2B brands by signalling environmental sustainability and managing customer relationships. *Industrial Marketing Management, 92*, 321–331.

Voola, R., Bandyopadhyay, C., Voola, A., Ray, S., & Carlson, J. (2022). B2B marketing scholarship and the UN sustainable development goals (SDGs): A systematic literature review. *Industrial Marketing Management, 101*, 12–32. https://doi.org/10.1016/j.indmarman.2021.11.013

Wichmann, J. R., Uppal, A., Sharma, A., & Dekimpe, M. G. (2022). A global perspective on the marketing mix across time and space. *International Journal of Research in Marketing, 39*(2), 502–521. https://doi.org/10.1016/j.ijresmar.2021.09.001

Witt, M. A., Li, P. P., Välikangas, L., & Lewin, A. Y. (2021). De-globalization and decoupling: Game changing consequences? *Management and Organization Review, 17*(1), 6–15. https://doi.org/10.1017/mor.2021.9

Wright, R. (2004). *Business-to-business marketing: A step-by-step guide*. Pearson Education.

Wrigley, N., & Dolega, L. (2011). Resilience, fragility, and adaptation: New evidence on the performance of UK high streets during global economic crisis and its policy implications. *Environment and Planning A, 43*(10), 2337–2363. https://doi.org/10.1068/a44270

Xinhua News. (2022). Xi focus: Xi pumps more BRICS power into global economic governance. In *XIV BRICS SUMMIT*. http://brics2022.mfa.gov.cn/eng/tpzx/202206/t20220627_10710527.html.

Zhang, C., Bai, X., & Gu, F. F. (2018). Contract learning in the aftermath of exchange disruptions: An empirical study of renewing interfirm relationships. *Industrial Marketing Management, 71*, 215–226. https://doi.org/10.1016/j.indmarman.2018.01.005

Zhang, C., & Gao, H. (2022). Managing business-to-business disruptions: Surviving and thriving in the face of challenges. In *, Vol. 105. Industrial Marketing Management* (pp. 72–78). Elsevier. https://doi.org/10.1016/j.indmarman.2017.08.010.