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DEVELOPING VIET NAM-GUANGXI BORDER TRADE UNDER THE BELT AND ROAD INITIATIVE: A SWOT ANALYSIS AND STRATEGIC IMPLICATIONS

Abstract: This article examines the development of border trade between Viet Nam and China's Guangxi Zhuang Autonomous Region under the Belt and Road Initiative (BRI) during 2020-2025. Combining document analysis with descriptive statistics and a SWOT framework, it evaluates how infrastructure connectivity, institutional coordination, logistics services, digitalization, and financial linkages have reshaped transaction costs and cross-border exchange. The evidence shows that the BRI context has supported rapid trade expansion, faster logistics, and a gradual shift toward more formalized trade channels, especially after China's post-pandemic reopening. Nevertheless, structural weaknesses remain, including the predominance of fresh agricultural exports, limited processing capacity on the Vietnamese side, inconsistent standards and quarantine procedures, and persistent congestion and informal transactions at border gates. The article argues that sustainable growth in Viet Nam-Guangxi border trade requires not only hard infrastructure investment but also stronger soft connectivity in regulation, payment systems, cold-chain logistics, and supply-chain transparency.

Keywords: border trade; Viet Nam; Guangxi; Belt and Road Initiative; SWOT analysis; logistics; trade facilitation.

1. Introduction

Since its launch in 2013, the Belt and Road Initiative has become a major framework for regional connectivity, infrastructure development, and trade facilitation across Asia. For Viet Nam and the Guangxi Zhuang Autonomous Region of China, the initiative matters not only at the macro level of China-ASEAN integration, but also at the micro level of border-gate operations, logistics networks, and the institutional conditions under which firms exchange goods.

Guangxi occupies a special geo-economic position. It is the only Chinese provincial-level region that combines a long land border with Viet Nam and maritime access to the Beibu Gulf, which makes it a strategic gateway linking inland China with ASEAN markets. Border trade between Guangxi and Viet Nam therefore performs a dual function: it supports local border economies and serves as a wider corridor for regional production and distribution.

Trade performance has been robust, particularly after China's full reopening following the COVID-19 period. Yet expansion in turnover has not automatically translated into balanced or resilient development. Border trade remains exposed to a narrow export structure, recurring congestion at major gates, fragmented logistics services, inconsistent standards and quarantine procedures, and a continuing reliance on partially informal channels of payment and exchange. These weaknesses have become more visible in the post-pandemic context, when supply-chain resilience, product traceability, and rules-of-origin compliance have become more demanding.

Against this background, the article addresses two questions. First, through which mechanisms has the BRI affected Viet Nam-Guangxi border trade? Second, why do structural weaknesses and external risks persist despite the stronger connectivity

associated with the initiative? To answer these questions, the article develops a transaction-cost-based analytical framework and applies a SWOT analysis to evidence from the period 2020-2025.

2. Literature review and analytical framework

Border trade is commonly understood as commodity exchange conducted in border areas between neighboring countries under specific legal and administrative arrangements [1; 2]. Compared with ordinary long-distance foreign trade, border trade is more sensitive to distance, customs procedures, quarantine requirements, local infrastructure, exchange mechanisms, and the institutional coordination capacity of adjacent administrations.

Three theoretical perspectives are particularly useful for the present study. First, the theory of comparative advantage helps explain the complementary commodity pattern in Viet Nam-Guangxi trade: Viet Nam supplies agricultural and aquatic products, while Guangxi exports machinery, electronics, and intermediate industrial inputs. Second, theories of international economic integration illuminate why the BRI and the "Two Corridors, One Belt" framework matter as institutional architectures for cross-border coordination. Third, transaction cost economics is especially relevant because border trade is highly affected by transport costs, waiting time, uncertainty, compliance burdens, and information asymmetries.

Building on this literature, the article identifies five channels through which the BRI connectivity agenda affects border trade. The first is hard infrastructure connectivity, including roads, railways, ports, and border-gate facilities. The second is institutional harmonization, especially customs coordination, quarantine procedures, and data exchange. The third is the development of supporting services such as cold-chain logistics, warehousing, insurance, and brokerage. The fourth is digital transformation through e-documents, smart border gates, digital platforms, and cross-border e-commerce. The fifth is financial connectivity, including formal

banking channels, local-currency settlement, and interoperable payment systems. Together, these channels reshape transaction costs and influence whether trade becomes more formalized, scalable, and resilient.

Prior studies have highlighted positive effects of the BRI and logistics improvement on China's agricultural trade [3-5], the complementarity of agricultural trade between Guangxi and Viet Nam [6], and the growing importance of digital trade and smart-port models [7-9]. However, the existing literature is often fragmented: some studies focus on agricultural products, others on e-commerce or border-port technology, and many are framed at a broad macro level. There remains room for an integrated analysis of Viet Nam-Guangxi border trade in the post-COVID period that links market structure, institutions, logistics, and risk through a single analytical framework.

3. Methodology

The article employs qualitative document analysis supplemented by descriptive statistics. The evidence base consists of official customs releases, policy documents, Vietnamese and Chinese government reports, trade-promotion materials, and recent academic studies concerning Viet Nam-China or Guangxi-ASEAN trade during 2020-2025. Rather than estimating a causal econometric model, the study focuses on identifying mechanisms, bottlenecks, and policy implications.

The analysis proceeds in three steps. First, descriptive statistics are used to summarize changes in the scale and broad structure of bilateral trade. Second, selected cases - such as smart-border-gate pilots, rail-border bottlenecks, and payment-system upgrades - are interpreted through the lens of transaction costs. Third, the findings are synthesized in a SWOT matrix in order to distinguish internal strengths and weaknesses from external opportunities and threats and to derive strategic implications for both Viet Nam and Guangxi.

4. Research findings

4.1. Trade scale and structure

Trade between Viet Nam and Guangxi expanded markedly during 2020-2025. After limited growth in 2020 and a modest contraction in 2022 under pandemic-related controls, turnover rebounded strongly in 2023 and 2024, before continuing to rise more moderately in 2025. The overall picture is one of strong expansion combined with a gradually stabilizing growth rate.

Table 1. Viet Nam-Guangxi trade turnover, 2020-2025

Year	Guangxi exports to Viet Nam (CNY bn)	Guangxi imports from Viet Nam (CNY bn)	Total trade (CNY bn)	Annual growth
2020	134.392	41.847	176.239	+0.5%
2021	142.569	57.825	200.394	+13.7%
2022	158.249	40.885	199.134	-0.6%
2023	191.595	62.360	253.955	+27.5%
2024	238.619	56.958	295.577	+16.4%
2025	n.a.	n.a.	311.540	+5.4%

Source: compiled by the authors from Nanning Customs statistics reported in recent official and trade-promotion materials [11; 13].

The asymmetry of border trade is also evident. Guangxi's exports to Viet Nam have consistently exceeded its imports from Viet Nam, which suggests that Viet Nam's market depends heavily on Chinese machinery, electronics, components, and other intermediate goods. This pattern reflects the industrial role of Guangxi as a manufacturing and distribution platform within the wider China-ASEAN supply chain.

Commodity composition confirms a complementary but uneven relationship. On the Vietnamese side, exports remain concentrated in agricultural and aquatic products, especially fruit, alongside some gains in wood products, processed food, and electronics-related items [10-13]. On the Guangxi side, exports to Viet Nam

are dominated by machinery, electrical and electronic components, and other industrial intermediates. In 2024, intermediate goods reportedly accounted for nearly half of total Viet Nam-Guangxi trade, underlining the region's role in cross-border production networks [11].

The problem is therefore not a lack of complementarity, but the unequal value-added structure embedded in that complementarity. Viet Nam still captures a relatively modest share of value because a large part of its border exports remains fresh or semi-processed, while Guangxi exports higher-value industrial goods. As long as this structure persists, border trade can continue to grow in volume while still remaining vulnerable to shocks in quarantine policy, logistics, and prices.

4.2. SWOT analysis

The SWOT results confirm that the BRI has created a more favorable environment for Viet Nam-Guangxi border trade, but they also show that connectivity gains remain unevenly distributed across different layers of the trading system.

Table 2. SWOT matrix for Viet Nam-Guangxi border trade under the BRI

Strengths	**Weaknesses**
1) Strategic geographic adjacency and a dense network of land border gates. 2) Strong commodity complementarity between Viet Nam's agri-food exports and Guangxi's industrial goods. 3) Sustained political support in recent Viet Nam-China joint statements and trade-promotion mechanisms. 4) Expanding e-commerce, platform trade, and logistics ecosystems in border cities such as Pingxiang and Dongxing.	1) Persistent infrastructure and service asymmetries across the border, especially in logistics, cold chain, and inspection capacity. 2) Heavy reliance on fresh produce and other low value-added exports on the Vietnamese side. 3) Incomplete institutional harmonization in standards, quarantine, and customs procedures. 4) Continuing use of informal or semi-formal payment and trading channels.
Opportunities	**Threats**
1) BRI-linked corridors, smart-border-gate pilots, and rail-road-port connectivity projects. 2) Growth of cross-border e-commerce, livestream sales, and digital logistics systems. 3) Formalized QR and bank-based payment connectivity that can reduce transaction costs and opacity.	1) Stricter Chinese requirements on traceability, food safety, quarantine, and enterprise registration. 2) Greater competition from other routes and trade frameworks as tariff preferences broaden. 3) Smuggling, origin fraud, and transshipment risks that increase scrutiny and compliance

Strengths	Weaknesses
4) Supply-chain diversification within the wider China-ASEAN production system.	burdens. 4) External pressure from third markets, especially on rules of origin and supply-chain transparency.

Source: authors' synthesis.

The central lesson is that hard infrastructure matters, but it is not sufficient on its own. At the same time, the study is consistent with recent research emphasizing that cross-border e-commerce, the digital economy, and smart border crossings are important directions for improving trade efficiency in the future.

5. Discussion

First, hard and soft connectivity have not advanced at the same pace. Border roads, logistics corridors, and smart-gate pilots have improved the physical movement of goods, yet the gains are frequently offset by gaps in quarantine capacity, customs coordination, and supporting services. The experience of rail-border exchange around Dong Dang and Pingxiang illustrates this problem: the usefulness of upgraded transport infrastructure depends on whether inspection facilities, handling systems, and operating procedures are equally modernized.

Second, the distance between high-level political commitments and local implementation remains significant. Recent Viet Nam-China joint statements have emphasized smart border gates, logistics cooperation, stable supply chains, and smoother customs coordination [17; 18]. In practice, however, enterprises still face frequent procedural adjustments, uneven interpretation at border gates, and uncertainty regarding documentary requirements. China's new Order 280, scheduled to take effect on 1 June 2026, is a good example: while it is part of a broader move toward tighter and more transparent food-import governance, it also raises compliance costs for firms that are not yet fully prepared [14].

Third, services on the Vietnamese side remain less developed than the expansion of trade would require. Cold-chain facilities, testing and certification infrastructure,

warehousing, and specialized logistics hubs have improved but are still insufficient relative to the scale and speed of cross-border exchange. This limits Viet Nam's ability to upgrade from fresh produce to higher-value processed exports and weakens resilience when there are sudden changes in quarantine control or customs clearance speed.

Fourth, digitalization is progressing, but the transition is incomplete. The official launch of bilateral Viet Nam-China QR retail payment connectivity in December 2025 represented an important step toward more formalized small-value cross-border transactions [15]. Yet the coexistence of official and informal payment channels suggests that firms and traders still respond strongly to convenience, speed, and cost. Financial connectivity will reduce transaction costs only if it is accessible to the small and medium-sized enterprises that dominate much of border trade [16].

6. Strategic implications

For Viet Nam, the priority is to upgrade the export basket rather than merely expand shipment volumes. This requires stronger investment in processing capacity, cold-chain logistics, testing and certification systems, and digital traceability. Border trade policy should encourage a shift from opportunistic and seasonal trade toward more contractual, standards-based, and platform-enabled transactions. Viet Nam should also use cross-border e-commerce more aggressively to reduce dependence on intermediaries and to improve direct market access for branded agri-food products.

For Guangxi, the key contribution is to improve predictability, service depth, and platform access. Guangxi can help reduce friction by strengthening consultation and early-warning mechanisms when new customs or quarantine measures are introduced, expanding inspection and handling capacity at key gates, and providing more efficient interfaces for Vietnamese exporters in logistics, e-commerce, and

wholesale distribution networks. Border cooperation becomes more sustainable when Guangxi is not only a transit zone, but also a facilitator of value upgrading and transparent market access.

For both sides, the core task is to close the gap between political consensus and operational coordination. Hard connectivity projects should be matched by soft-connectivity reforms in customs data sharing, quarantine recognition, payment interoperability, and anti-smuggling cooperation. The smart-border-gate pilots at Huu Nghi-Youyi Guan and Mong Cai-Dongxing are especially important because they can function as demonstration projects for a wider model of efficient, rules-based, and digitalized border management. At the same time, the two sides need stronger cooperation on origin control, transshipment monitoring, and fraud prevention.

7. Conclusion

During 2020-2025, Viet Nam-Guangxi border trade expanded rapidly and became more deeply embedded in the broader BRI and China-ASEAN connectivity framework. The main gains were visible in scale, logistics efficiency, and the growing institutional recognition of smart-border and digital-trade solutions. At the same time, the structure of trade remained uneven, with Viet Nam continuing to depend heavily on fresh agricultural exports and Guangxi retaining advantages in higher-value industrial and intermediate goods.

The study shows that the persistence of weaknesses is not a paradox once the mechanisms of border trade are examined more closely. Incomplete institutional harmonization, service gaps, implementation asymmetries, and uneven access to formal finance prevent hard infrastructure investment from translating automatically into resilient trade development. In this sense, the BRI should be understood not as a completed solution, but as a framework whose results depend on the depth of follow-through at the operational level.

Sustainable development in Viet Nam-Guangxi border trade therefore requires a dual strategy: continued investment in modern cross-border infrastructure and a simultaneous strengthening of soft connectivity in regulation, logistics services, digital systems, payment channels, and supply-chain transparency. Only by combining these two dimensions can the two sides move to higher-quality, more formalized, and more shock-resilient trade integration.

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