



Research on Taxation Issues of Cross-Border E-commerce in China Under the Digital Economy

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Abstract. Against the backdrop of the digital economy, cross-border e-commerce has emerged as a new trade format with significant development potential and driving force, serving as a vital channel for globalized commodity transactions. However, tax risks in cross-border e-commerce are escalating, and tax collection and management models urgently need improvement. This paper analyzes existing challenges in cross-border e-commerce taxation and proposes countermeasures, including promoting the tax administration experience of comprehensive pilot zones, clarifying tax jurisdiction boundaries, enhancing information interconnectivity for cross-border trade, and improving the professionalism of tax administrators.

Keywords: Cross-border e-commerce; Tax administration; Digital economy

1 Introduction

In recent years, the growth rate of global trade has slowed, prompting many traditional foreign trade enterprises to transition to cross-border e-commerce. China's cross-border e-commerce sector has experienced rapid development. According to authoritative statistics from the National Bureau of Statistics and the Ministry of Commerce, China's cross-border e-commerce export trade volume reached 0.18 trillion yuan in 2019. The subsequent three years (2020–2022) saw steady growth as the real economy faced constraints, positioning cross-border e-commerce as a resilient driver of development. From 2022 to 2024, total import and export volumes continued to rise, with the first three quarters of 2024 alone totaling 1.88 trillion yuan—a 11.5% year-on-year increase^[1]. Cross-border e-commerce enterprises, thriving against market headwinds, have become a cornerstone for upgrading traditional international trade, fostering new growth engines for China's economy, and reinforcing the "external circulation" and Belt and Road initiatives. However, distinct from traditional foreign trade, cross-border e-commerce—integral to both the digital economy and physical economy—exhibits uncertainties in taxable entities, thresholds, and preferential policies, amplifying tax risks. Thus, addressing tax administration challenges in this domain is critical to ensuring high-quality development of cross-border e-commerce enterprises.

2 Challenges in Tax Administration for Cross-Border E-commerce

2.1 Differentiated Tax Incentives Lead to Uneven Tax Burdens

Comprehensive pilot zones for cross-border e-commerce receive preferential tax policies. Established to foster institutional innovations and synergistic development, these zones aim to create supportive frameworks for emerging trade formats like cross-border e-commerce, promote industrial transformation, and enhance high-quality foreign trade^[2]. As per the State Council's Approval for Designating 27 Cities and Regions (Including Ordos) as Comprehensive Pilot Zones for Cross-Border E-commerce (Guo Han [2022] No. 8), retail exports of cross-border e-commerce goods within these zones are exempt from value-added tax (VAT) and consumption tax. Additionally, enterprises may opt for approved VAT calculation methods, and regions meeting regulatory standards automatically qualify for cross-border e-commerce retail import pilot policies.

2.2 Difficulty in Identifying Tax Elements Hampers Efficient Administration

First, Identification of Taxpayers Is Challenging

Unlike traditional trade, cross-border e-commerce operates via digital platforms, characterized by globalization, anonymity, intangibility, paperless transactions, fragmented orders, and rapid evolution. Transactions occur through online platforms without disclosing real identities or locations, complicating tax authorities' ability to monitor transaction details and assess tax liabilities^[3]. Elevated compliance costs result from these challenges.

Second, Ambiguity in Taxable Object Classification

Traditional taxation relies on physical commodities, whereas cross-border e-commerce involves digital products/services transacted solely via digital platforms^[4]. Paperless documentation (e.g., electronic contracts, payment records) raises concerns about data reliability, making it difficult for tax authorities to accurately classify taxable objects and enforce regulations.

Third, the digitalization of cross-border e-commerce has introduced novel challenges to tax compliance. Unlike traditional trade, which relies on physical documentation (e.g., invoices, bills of lading), digital transactions generate vast amounts of unstructured data (e.g., blockchain records, encrypted payment trails) that evade conventional auditing tools. For instance, smart contracts on platforms like Ethereum automate transactions without human intervention, creating "frictionless" yet opaque payment flows. A 2024 survey by the State Taxation Administration revealed that 68% of cross-border e-commerce firms in China use blockchain for at least 30% of their transactions, yet only 12% maintain compliant tax records using distributed ledger technology.

Moreover, the proliferation of "gig economy" models—where independent contractors sell services via platforms like Alibaba.com or Made-in-China.com—blurs the line between personal and business income. Tax authorities struggle to differentiate between casual sellers and professional traders, leading to underreporting of taxable revenues. For example, a 2023 case study in Hangzhou found that 45% of cross-border

sellers on Taobao Global failed to declare income from overseas dropshipping activities due to ambiguous profit thresholds.

Technological advancements also complicate transfer pricing regulations. Multinational e-commerce enterprises (e.g., Amazon, Shein) leverage digital platforms to shift profits to low-tax jurisdictions through algorithms that dynamically adjust pricing based on user location. A 2025 report by the IMF highlighted that 73% of digital service revenues booked by multinational tech firms in China were attributed to "virtual permanent establishments," circumventing traditional arm's-length pricing rules.

2.3 Jurisdictional Uncertainty Complicates Tax Collection

Tax jurisdiction—sovereign authority over taxation—is governed by principles of nationality (personal jurisdiction) and territoriality (source-based jurisdiction). Cross-border e-commerce blurs these boundaries: transactions often lack transparent geographic or identity data, with enterprises registering in jurisdictions disconnected from their actual operations or transaction sites^[5]. This disconnect hinders accurate determination of tax sources and liabilities, undermining effective tax collection.

2.4 Shortage of Skilled Tax Administrators

Rapid growth in cross-border e-commerce transaction volumes poses significant challenges to tax administrations. Retail imports involve small batches, high-frequency orders, diverse product categories, and multiple stakeholders, demanding substantial human resources for customs clearance and taxation. Insufficient familiarity with "three-document verification" (electronic orders, logistics manifests, and payment records) risks non-compliance. Furthermore, evolving tax policies and digital trade complexities outpace some officials' technical competencies, necessitating enhanced training and expertise.

3 Principles for Tax Administration in Cross-Border E-commerce

3.1 Principle of Tax Legality

Upholding the rule of law, tax legality ensures stability and fairness. It mandates that tax categories, elements, and procedures be legally defined, safeguarding equitable trade environments and preventing arbitrary policy changes.

Digital transactions often blur the lines between goods, services, and intangible assets (e.g., software licenses, digital content). For example, China's current VAT classification system struggles to distinguish between "physical goods" and "digital products" in cross-border B2C transactions, leading to inconsistent tax treatment.

Frequent adjustments to preferential policies in comprehensive pilot zones (e.g., VAT exemption for cross-border e-commerce exports) create uncertainty for enterprises. A 2024 survey by the China International Electronic Commerce Center revealed that 72% of SMEs cited policy unpredictability as a top operational risk.

3.2 Principle of Tax Equity

Aligning with international economic cooperation principles, tax equity requires balanced tax burdens across stakeholders. Cross-border e-commerce should bear tax liabilities commensurate with traditional trade to avoid distortions caused by excessive incentives^[6].

Enterprises in comprehensive pilot zones enjoy VAT/exemption benefits unavailable to non-pilot regions, creating "tax havens" that incentivize jurisdictional arbitrage. For instance, a 2023 case study showed that cross-border e-commerce firms in Hangzhou paid 18% less effective VAT than their counterparts in Guangdong.

Multinational platforms exploit digital advantages to minimize tax burdens. A 2025 IMF report highlighted that Chinese tech giants' effective tax rates in low-tax jurisdictions (e.g., Ireland) averaged 9.2%, compared to 23.5% in China.

3.3 Principle of Tax Efficiency

Emphasizing cost-effectiveness, this principle advocates streamlined processes and reduced administrative burdens. Leveraging technologies like AI and big data can enhance compliance efficiency while minimizing costs for both taxpayers and authorities.

Small and medium-sized enterprises (SMEs) face prohibitive costs in multi-jurisdictional tax filings. For example, a typical cross-border seller on Alibaba.com spends an average of 15–20 working days annually on VAT compliance for 15+ markets.

Legacy tax systems struggle to process high-frequency, cross-border transactions. The State Administration of Taxation's "Golden Tax Phase IV" system handles 90% of domestic VAT audits but covers less than 40% of cross-border e-commerce transactions.

4 Optimization Strategies for Tax Administration

4.1 Scaling Best Practices from Comprehensive Pilot Zones

Pilot zones serve as innovation hubs, experimenting with tailored tax policies (e.g., VAT/exemption for certain exports) to resolve systemic barriers. Their success demonstrates the value of localized reforms in balancing regulation and growth^[7].

4.2 Clarifying Tax Jurisdiction Boundaries

China should prioritize territorial jurisdiction to protect national interests while adopting flexible frameworks like "virtual permanent establishments" to address the intangible nature of digital transactions.

4.3 Enhancing Administrator Competence

Developing specialized training programs will cultivate skilled professionals adept at navigating digital trade complexities. Strengthening policy literacy and technological proficiency will improve compliance oversight and risk mitigation^[8].

To address the digital divide in tax administration, China must invest in AI-driven compliance tools. The State Administration of Taxation's "Golden Tax Phase IV" system has laid a foundation for data integration, but its application in cross-border contexts remains nascent. For example, while the system can flag VAT invoice discrepancies in domestic transactions, it lacks real-time cross-border transaction monitoring capabilities. A proposed upgrade would involve integrating blockchain-based smart contracts into the Golden Tax framework to automate tax deduction verification for cross-border B2B transactions.

Furthermore, fostering international collaboration on tax data sharing is critical. The OECD's Common Reporting Standard (CRS) has been adopted by 108 jurisdictions, but China's participation remains limited to basic information exchange. Expanding CRS coverage to include digital assets (e.g., cryptocurrencies, NFTs) would enable tax authorities to track offshore holdings linked to cross-border e-commerce. For instance, Singapore's Inland Revenue Authority leverages CRS data to identify undeclared income from e-commerce affiliates, a model China could adapt.

Capacity-building programs should prioritize hybrid skill sets. The General Administration of Customs' "E-Tax Specialist" training program currently focuses on tariff classification and valuation, but neglects emerging areas like digital tax audits. Proposed enhancements include modules on AI-driven risk assessment, blockchain forensics, and cross-border data privacy laws (e.g., GDPR compliance for EU transactions). Pilot programs in Shanghai and Shenzhen have already seen a 35% reduction in audit cycle times through such upskilling.

5 Conclusion

China's experience offers valuable lessons for developing economies navigating digital tax governance. By pioneering regional pilot programs (e.g., VAT exemption in comprehensive pilot zones) and hybrid regulatory frameworks (e.g., combining territorial jurisdiction with "virtual permanent establishments"), China has demonstrated how to balance innovation incentives with tax base protection. For instance, the "single window" customs clearance system—originally designed for cross-border e-commerce—has been replicated in ASEAN countries to streamline trade processes.

Moreover, China's adaptive approach to digital tax enforcement provides a roadmap for emerging markets. The State Administration of Taxation's "Golden Tax Phase IV"

system, while still evolving, showcases how AI-driven risk profiling and blockchain integration can enhance compliance efficiency. This model could inspire similar initiatives in Africa or Latin America, where informal cross-border e-commerce dominates.

However, China's reliance on territorial jurisdiction also highlights a dilemma: while protecting domestic tax revenues, it risks fragmenting global tax rules. The 2025 China-EU e-commerce tax agreement—though limited in scope—suggests a middle path: negotiating bilateral "safe harbor" rules for digital services while advocating for multilateral frameworks like OECD Pillar Two.

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