



Journal for Social
Science Archives

Journal for Social Science Archives

Online ISSN: 3006-3310

Print ISSN: 3006-3302

Volume 4, Number 1, 2026, Pages 155 – 167

Journal Home Page

<https://jssarchives.com/index.php/Journal/about>



Trade-Based Money Laundering: A Study of Pakistan's Vulnerability and Regulatory Response

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ARTICLE INFO

Article History:

Received: November 11, 2025
Revised: December 02, 2025
Accepted: December 25, 2025
Available Online: January 12, 2026

Keywords:

Trade-Based Money Laundering, TBML, Pakistan, AML/CFT, Over-Invoicing, Customs Valuation.

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ABSTRACT

Trade-Based Money Laundering (TBML) represents one of the most complex and pervasive methods of disguising illicit proceeds through international trade transactions. In Pakistan, a country heavily reliant on international trade, substantial remittances, and a large informal economy, TBML poses significant risks to financial integrity and national security. This study examines Pakistan's vulnerability to TBML, focusing on prevalent techniques such as over- and under-invoicing of goods, multiple invoicing, phantom shipments, black market peso exchange mechanisms, and the misuse of free trade zones and export rebate schemes. It analyzes key risk factors, including porous borders, weak customs valuation controls, limited inter-agency coordination, cash-based settlements in certain sectors, and the rapid growth of digital trade platforms. The research evaluates Pakistan's regulatory response, including amendments to the Anti-Money Laundering Act, 2010, State Bank of Pakistan guidelines on trade finance, Federal Board of Revenue's customs valuation and post-clearance audit frameworks, and alignment with Financial Action Task Force (FATF) recommendations following Pakistan's Grey List exit in 2022. Despite notable legislative and institutional progress, persistent implementation gaps, resource constraints in customs and border agencies, and inadequate use of trade data analytics continue to undermine effectiveness. The paper concludes that strengthening risk-based supervision, enhancing inter-agency information sharing, adopting advanced trade transaction monitoring tools, and improving international cooperation are essential to mitigate TBML risks. This analysis contributes to a deeper understanding of TBML dynamics in trade-dependent developing economies and offers targeted policy recommendations to bolster Pakistan's defenses against trade-



related illicit finance.

Introduction

Background of the Study

Trade-based money laundering (TBML) represents one of the most sophisticated and pervasive methods employed by criminal organizations to disguise the illicit origins of funds and integrate them into the legitimate economy. Unlike traditional money laundering techniques that rely primarily on financial transactions within banking systems, TBML exploits the complexities of international trade by manipulating invoices, shipping documents, quantities, qualities, or prices of goods to transfer value across borders covertly. Common techniques include over-invoicing (where the invoice value exceeds the actual worth of goods to move funds out of a jurisdiction), under-invoicing (to bring illicit proceeds into a country while evading taxes), multiple invoicing, phantom shipments, and the misuse of trade finance instruments (Azhar et al., 2025).

The international trade system, characterized by high volumes, diverse participants, varying regulatory oversight across jurisdictions, and reliance on paper-based or electronic documentation, creates inherent vulnerabilities that make TBML difficult to detect and prevent. Globally, the Financial Action Task Force (FATF) has repeatedly highlighted TBML as a significant risk, noting that the sheer scale of world trade trillions of dollars annually provides ample cover for illicit activities. Criminals exploit discrepancies in customs valuations, free trade zones, and fragmented enforcement to launder proceeds from drug trafficking, corruption, tax evasion, and terrorist financing. In developing economies with substantial import-export dependencies, these risks become amplified due to limited technological integration, resource constraints in regulatory bodies, and porous borders (Asghar, Bhatti, & Adnan, 2022).

Pakistan, as an emerging economy heavily reliant on international trade, faces pronounced exposure to TBML. The country's trade volume has grown significantly in recent decades, with major exports including textiles, rice, leather goods, and surgical instruments, while imports encompass machinery, chemicals, petroleum products, and consumer electronics. This trade activity occurs through diverse channels, including formal banking routes, informal value transfer systems such as hawala, and free zones. Pakistan's strategic location, bordering regions prone to illicit flows, combined with economic pressures like trade imbalances and foreign exchange shortages, heightens susceptibility (Ali et al., 2024).

Reports and typologies indicate that commodities such as solar panels, textiles, chemicals, rice, and industrial equipment have been linked to suspicious trade patterns in recent years. Techniques like over-invoicing of exports or under-invoicing of imports allow criminals to move funds discreetly, often evading customs duties and foreign exchange regulations. The shift toward TBML has become more evident as stricter controls on direct financial channels, prompted by international pressure, push illicit actors toward trade-based methods. Pakistan's National Risk Assessment has identified TBML-related threats among high-risk areas, underscoring how criminals adapt to regulatory tightening in the formal financial sector by exploiting trade loopholes. The involvement of free trade zones, misdeclaration of goods, and collusion between

traders further complicates detection efforts in a jurisdiction where trade documentation verification remains challenging (M. U. Zafar, Asghar, et al., 2024).

Significance of the Study

The significance of examining TBML in the Pakistani context lies in its profound implications for economic stability, national security, and international compliance. TBML undermines the integrity of Pakistan's financial system by facilitating the inflow and outflow of illicit funds, which can distort trade statistics, exacerbate balance-of-payments issues, and erode foreign exchange reserves. It also deprives the government of substantial revenue through evaded customs duties and taxes, straining public finances in a country already grappling with fiscal deficits and development needs. From a security perspective, TBML poses risks to counter-terrorist financing efforts, as illicit proceeds can fund extremist activities or organized crime networks operating within and beyond borders (Ashraf et al., 2024).

Pakistan's ongoing engagement with global anti-money laundering bodies, including its past experience with FATF monitoring, highlights the critical need to address such vulnerabilities to maintain credibility and avoid adverse listings that could restrict access to international finance. Effective regulatory responses are essential not only to mitigate these domestic harms but also to align with international standards set by the FATF, which emphasize risk-based approaches to combat TBML. This study contributes to the broader discourse on evolving financial crime typologies, where traditional banking-focused controls prove insufficient against trade exploitation (Ahmad et al., 2025).

By focusing on Pakistan's specific vulnerabilities such as commodity-specific risks, enforcement gaps, and institutional coordination challenges the research offers insights relevant to other trade-dependent developing nations. Furthermore, strengthening responses to TBML can enhance investor confidence, promote legitimate trade growth, and support sustainable economic development. In an era of increasing global scrutiny on financial integrity, understanding and addressing TBML in Pakistan holds strategic importance for safeguarding the economy and fulfilling international obligations (Asghar, Shami, & Kiran, 2025).

Research Objectives

- i. To examine the primary mechanisms and techniques of trade-based money laundering as they manifest in Pakistan's international trade environment.
- ii. To assess the key vulnerabilities in Pakistan's trade system that facilitate TBML, including sectoral, institutional, and regulatory factors.
- iii. To evaluate the existing regulatory framework and institutional responses in Pakistan aimed at detecting and preventing TBML.
- iv. To analyze the effectiveness of current measures implemented by relevant authorities, such as the State Bank of Pakistan and Financial Monitoring Unit, in countering TBML risks.
- v. To propose targeted recommendations for enhancing Pakistan's regulatory and enforcement capacity to mitigate trade-based money laundering vulnerabilities.

Literature Review

TBML Techniques and Indicators

Trade-based money laundering (TBML) involves disguising the proceeds of crime and moving value through trade transactions in an attempt to legitimize illicit funds. The foundational techniques include over-invoicing, where the stated value of goods exceeds their actual market price to transfer excess funds out of a jurisdiction, and under-invoicing, which allows illicit

proceeds to enter a country by declaring lower values and evading duties or taxes. Other prevalent methods encompass multiple invoicing for the same shipment to justify repeated payments, phantom shipments where no goods are actually traded but payments are made, and the misrepresentation of quantity, quality, or description of goods to obscure value transfers (Shami, Asghar, et al., 2025).

Additional techniques involve the use of shell companies, complex routing through multiple jurisdictions, black market peso exchanges, and the exploitation of trade finance products like letters of credit. These methods exploit the inherent complexities of international trade, such as diverse documentation requirements, varying customs valuation practices, and the high volume of legitimate transactions that provide cover for illicit ones (Asghar & Bhatti, 2024).

To aid detection, international bodies have developed comprehensive risk indicators. Key indicators relate to the structure of the business, including newly established entities with no trade history engaging in high-value transactions, frequent changes in ownership, or involvement in high-risk sectors. Trade activity indicators encompass significant discrepancies between invoiced amounts and market prices, unusual shipment patterns such as round-tripping goods, or trades inconsistent with the parties' known business profiles. Document and commodity-related red flags include inconsistencies between commercial invoices, bills of lading, and packing lists; goods described in vague terms; or commodities prone to valuation manipulation like precious metals, electronics, textiles, or agricultural products (Kanwel et al., 2024).

Financial indicators involve payments routed through third parties unrelated to the trade, rapid fund movements disproportionate to trade volumes, or settlements in cash or via informal value transfer systems. These indicators, drawn from global typologies, emphasize a risk-based approach where financial institutions, customs authorities, and regulators analyze trade data for anomalies, such as price deviations from international benchmarks or mismatches in trade statistics between exporting and importing countries (Manzoor et al., 2024).

Global and Regional Trends

Globally, TBML has emerged as a major conduit for money laundering and terrorist financing, with the volume of international trade providing vast opportunities for concealment. Reports indicate that as controls on traditional financial channels have tightened, criminals have increasingly shifted toward trade-based methods, which are harder to detect due to the integration with legitimate commerce. The scale of world trade, exceeding tens of trillions of dollars annually, combined with fragmented regulatory oversight across borders, enables sophisticated exploitation. Trends show a rise in TBML linked to drug trafficking, corruption, sanctions evasion, and proliferation financing, with techniques evolving to include digital trade platforms and free trade zones that offer reduced scrutiny (Adnan & Asghar, 2024).

Recent assessments highlight the adaptation of methods in response to enhanced banking due diligence, pushing illicit actors toward commodity misdescription and complex supply chain layering. In the Asia-Pacific region, including South Asia, TBML risks are amplified by rapid trade growth, reliance on cash-intensive economies, and the prevalence of informal systems. Regional analyses point to vulnerabilities in sectors like textiles, electronics, commodities, and precious stones, where over-invoicing and under-invoicing facilitate capital flight and illicit inflows. South Asia faces particular challenges from porous borders, trade imbalances, and the use of hawala-like networks that intersect with formal trade (Shami, Ashraf, et al., 2025).

Cases in the region demonstrate how sanctioned entities or organized crime groups exploit trade routes to move funds, often through misdeclaration or the use of front companies. Pilot initiatives

in Asia have shown that integrating detailed trade data with financial intelligence significantly improves detection rates, underscoring the need for cross-border collaboration. Overall, global and regional trends reveal TBML as an adaptive threat that exploits enforcement gaps, with increasing links to terrorist financing and sanctions circumvention in high-risk jurisdictions (Khan et al., 2025).

Pakistan's Regulatory Framework

Pakistan's regulatory response to TBML is embedded within its broader anti-money laundering and countering the financing of terrorism (AML/CFT) regime, primarily governed by the Anti-Money Laundering Act, 2010, as amended. The Financial Monitoring Unit (FMU) serves as the central authority for receiving, analyzing, and disseminating financial intelligence, including suspicious transaction reports related to trade. The State Bank of Pakistan (SBP), as the supervisor for financial institutions, has issued specific frameworks for managing TBML risks, requiring authorized dealers in foreign exchange to implement risk-based controls for trade transactions. These include enhanced due diligence on trade parties, verification of underlying trade documents, monitoring for red flags such as price anomalies or inconsistent documentation, and incorporating TBML typologies into training programs (Sadozai et al., 2025).

Key measures involve the adoption of risk indicators aligned with international standards, periodic review of TBML risk profiles by boards of directors, and the integration of trade-related data into suspicious activity reporting. Authorized dealers must conduct customer due diligence, assess trade finance risks, and report discrepancies in trade documentation or unusual payment patterns. The SBP's framework emphasizes a multi-layered approach, including internal risk assessments, transaction monitoring, and collaboration with customs authorities to cross-verify import-export declarations. Recent updates to the framework reflect evolving threats, incorporating case studies, common typologies, and practical red flags to strengthen compliance. Coordination between the FMU, SBP, Federal Board of Revenue (for customs-related aspects), and other agencies aims to address detection challenges, though implementation faces constraints from resource limitations and the need for better technological integration. Pakistan's efforts align with FATF recommendations, focusing on risk-based supervision and enhanced information sharing to mitigate TBML vulnerabilities in its trade-dependent economy (Asghar, Bhatti, & Ch, 2022).

Research Gap

Despite growing international literature on TBML techniques and global trends, empirical studies specific to Pakistan remain limited. Existing works often focus on general AML frameworks or FATF compliance, with scant in-depth analysis of sector-specific vulnerabilities, such as textiles or solar panels, or the interplay between formal trade and informal channels like hawala. Few studies quantitatively assess the effectiveness of Pakistan's regulatory measures against TBML or examine enforcement gaps in customs-trade-financial institution coordination. This leaves a critical void in understanding localized risk patterns and the impact of recent SBP and FMU initiatives, necessitating targeted research to bridge theoretical insights with Pakistan's unique contextual challenges.

Research Methodology

Research Design

This study adopts a qualitative research design with an exploratory and descriptive orientation to investigate trade-based money laundering (TBML) vulnerabilities and Pakistan's regulatory response. The research is primarily documentary and secondary in nature, drawing heavily on

existing reports, official publications, policy documents, and typologies to construct a comprehensive understanding of the phenomenon within the Pakistani context. A case study approach is employed, focusing on Pakistan as the primary unit of analysis, while incorporating comparative insights from global and regional trends where relevant. This design facilitates an in-depth examination of complex institutional, regulatory, and operational dynamics that characterize TBML risks and countermeasures. By combining descriptive analysis of current practices with exploratory assessment of emerging vulnerabilities, the study seeks to generate contextualized insights rather than test hypotheses through quantitative experimentation. The qualitative framework allows flexibility in interpreting regulatory documents, risk assessment reports, and enforcement practices, enabling the identification of patterns, gaps, and adaptive behaviors in both illicit trade practices and official responses.

Data Collection Method

Data for this study were collected exclusively through secondary sources to ensure reliability, objectivity, and access to authoritative information. The primary method involved systematic desk research, including the review and analysis of publicly available documents issued by national and international institutions. Key sources encompass reports and guidelines from the Financial Action Task Force (FATF), Asia/Pacific Group on Money Laundering (APG), State Bank of Pakistan (SBP), Financial Monitoring Unit (FMU), Federal Board of Revenue (FBR), and Pakistan Customs Service (M. U. Zafar, Baig, et al., 2024). Additional materials include Pakistan's National Risk Assessments on money laundering and terrorist financing, SBP circulars and frameworks on trade finance and foreign exchange risk management, annual reports of regulatory bodies, and relevant policy notifications. International typologies, case studies, and best practice papers on TBML were also examined to contextualize Pakistan-specific findings. All documents were sourced from official websites, ensuring authenticity and currency of information up to the most recent publications available at the time of research.

Sample Size

Given the qualitative and secondary nature of the study, no conventional statistical sample size applies. Instead, the research purposively selected a comprehensive set of relevant documents to achieve saturation of themes and sufficient coverage of the topic. Approximately 45–60 key documents formed the core corpus, including 12–15 FATF and APG reports and mutual evaluation documents, 18–20 SBP circulars and guidelines related to trade-based transactions and AML/CFT, 8–10 FMU annual reports and strategic analyses, 5–7 national risk assessment reports, and a selection of customs and FBR policy circulars. This number allowed thorough exploration of TBML techniques, risk indicators, regulatory evolution, and implementation challenges without redundancy (S. Zafar, Zaib, et al., 2024).

Sampling Technique

Purposive sampling, also known as judgmental or expert sampling, was employed to select documents. The researcher deliberately chose materials based on their relevance, authority, recency, and capacity to address the research objectives. Inclusion criteria prioritized official publications from primary regulatory institutions, documents explicitly addressing TBML or trade finance risks, and sources containing Pakistan-specific data, typologies, or assessments. Documents were excluded if outdated (beyond a reasonable policy relevance period), tangential to TBML, or lacking credible institutional authorship. This non-probability technique ensured that the selected corpus represented the most informative and authoritative perspectives on Pakistan's TBML landscape and regulatory framework (Shami, Khaled, et al., 2025).

Data Collection

Data collection proceeded in phases. First, an initial broad search identified core policy and risk documents from official institutional websites. Subsequent targeted searches focused on specific themes such as TBML red flags, trade finance due diligence requirements, suspicious transaction reporting in trade contexts, and enforcement case examples. Documents were downloaded, catalogued, and organized chronologically and thematically using digital folders and annotation tools. Relevant sections were extracted and compiled into a working database to facilitate cross-referencing and thematic coding. The process emphasized triangulation by comparing information across multiple sources (e.g., SBP guidelines versus FMU reports versus FATF evaluations) to enhance validity and reduce potential institutional bias (Asghar, Shami, & Ashraf, 2025).

Data Analysis

Data analysis followed a thematic content analysis approach. Collected documents were systematically reviewed to identify recurring patterns, concepts, and relationships related to TBML techniques, vulnerabilities, regulatory provisions, implementation mechanisms, and identified gaps. Initial open coding categorized raw data into broad themes such as “over-invoicing indicators,” “trade finance controls,” “institutional coordination challenges,” and “FATF compliance progress.” These were then refined through axial coding to establish connections and sub-themes. Selective coding synthesized findings into coherent narratives addressing each research objective. Analytical rigor was maintained through constant comparison, memo-writing to track interpretive insights, and cross-verification of claims across different document types. The analysis remained interpretive yet grounded in the language and intent of primary sources, enabling a nuanced evaluation of Pakistan’s TBML vulnerabilities and the adequacy of its regulatory response (Haider et al., 2025).

Results and Discussion

Pakistan's TBML Vulnerabilities

Pakistan exhibits significant vulnerabilities to trade-based money laundering (TBML), stemming from its heavy dependence on international trade, structural economic characteristics, and operational features of its trade ecosystem. As a trade-dependent economy with substantial exports in textiles, rice, leather, and surgical goods, alongside imports of machinery, petroleum, and chemicals, the country processes high volumes of transactions that provide natural concealment for illicit value transfers. Over-invoicing of exports and under-invoicing of imports remain prominent techniques, enabling capital flight, tax evasion, and the movement of illicit proceeds. Specific commodities such as solar panels, industrial equipment, and agricultural products have shown patterns consistent with manipulation of quantities, qualities, or prices to facilitate fund transfers.

The integration of formal banking channels with informal value transfer systems, particularly hawala, amplifies risks by allowing circumvention of official foreign exchange controls amid persistent balance-of-payments pressures and foreign currency shortages. Porous borders, especially with neighboring countries involved in regional illicit flows, facilitate misdeclaration and smuggling that intersect with trade documentation. Free trade zones and bonded warehouses offer reduced scrutiny, creating opportunities for phantom shipments or rerouting. National risk assessments have consistently rated TBML-related threats as high, highlighting how criminals exploit discrepancies in customs valuation practices, limited real-time data sharing between trade and financial authorities, and challenges in verifying underlying trade legitimacy. The adaptation

of techniques in response to tightened financial sector controls further underscores Pakistan's exposure, as illicit actors shift toward trade channels that remain comparatively under-monitored.

Regulatory and Institutional Gaps

Pakistan's regulatory framework for countering TBML has evolved considerably, yet persistent gaps undermine its effectiveness. The State Bank of Pakistan (SBP) maintains a dedicated framework for managing TBML risks, mandating authorized dealers to conduct risk assessments, apply enhanced due diligence on trade parties, monitor for red flags such as price anomalies and inconsistent documentation, and report suspicious activities. Recent revisions to this framework emphasize risk-based approaches, incorporation of updated typologies, and stronger internal controls within financial institutions.

The Financial Monitoring Unit (FMU) plays a central role in analyzing trade-related suspicious transaction reports and disseminating intelligence. However, implementation challenges persist across institutions. Resource constraints limit the capacity for advanced data analytics, real-time transaction monitoring, and comprehensive training on evolving TBML methods. Coordination between the SBP, FMU, Federal Board of Revenue, and customs authorities remains fragmented, with inadequate integration of trade declaration data and financial intelligence hindering proactive detection.

Enforcement actions, while increasing, often focus on reactive measures rather than systemic prevention, and penalties for non-compliance may lack sufficient deterrence. Sector-specific vulnerabilities, particularly in high-risk commodities, are not always adequately addressed through targeted guidelines or supervisory focus. The reliance on manual verification processes in customs and banking, coupled with limited technological adoption for cross-border data matching, creates exploitable weaknesses. These gaps contribute to ongoing vulnerabilities, as regulatory efforts have not fully kept pace with the sophistication and adaptability of TBML schemes.

International Cooperation and Best Practices

Pakistan's engagement with international standards and cooperation mechanisms has progressed, aligning its TBML response more closely with global best practices while revealing areas for further enhancement. Participation in the Asia/Pacific Group on Money Laundering (APG) and adherence to Financial Action Task Force (FATF) recommendations have driven improvements in risk understanding and regulatory frameworks. Recent updates to SBP guidelines reflect incorporation of FATF typologies, red flag indicators, and emphasis on risk-based supervision. International cooperation includes information exchange through Egmont Group channels via the FMU and mutual legal assistance arrangements.

Best practices observed globally, such as integrated trade-finance intelligence platforms, public-private partnerships for sharing typologies, and advanced analytics for price benchmarking, offer models for strengthening Pakistan's regime. Regional initiatives in Asia demonstrate the value of cross-border collaboration in identifying trade discrepancies through paired import-export data analysis. Adopting similar approaches could enhance detection in Pakistan by linking customs databases with banking records more effectively.

However, full realization of these practices requires sustained investment in technology, capacity building, and inter-agency protocols. Strengthening ties with international bodies for technical assistance and joint typologies development would further bolster resilience. Ultimately, while progress is evident, embedding these best practices more deeply into domestic operations remains

essential to closing remaining vulnerabilities and ensuring a robust, sustainable response to TBML threats.

Conclusion

Summary of Key Findings

This study has examined trade-based money laundering (TBML) as a critical and evolving threat within Pakistan's economic and financial landscape, revealing both deep-seated vulnerabilities and incremental progress in regulatory countermeasures. Pakistan's heavy reliance on international trade, characterized by large volumes of exports in textiles, agricultural commodities, and manufactured goods, alongside imports of industrial inputs and consumer products, creates a fertile environment for TBML exploitation.

Predominant techniques such as over-invoicing of exports, under-invoicing of imports, misdescription of goods, multiple invoicing, and phantom shipments enable the covert movement of illicit funds while evading customs duties, foreign exchange regulations, and tax obligations. High-risk commodities including solar panels, rice, chemicals, and industrial equipment frequently exhibit suspicious patterns, often compounded by the intersection of formal trade channels with informal value transfer systems like hawala. Structural factors persistent trade imbalances, foreign exchange pressures, porous borders, and the use of free trade zones further amplify exposure, allowing criminals to adapt techniques in response to strengthened controls in the formal financial sector.

The regulatory framework, anchored in the Anti-Money Laundering Act and guided by the State Bank of Pakistan (SBP) and Financial Monitoring Unit (FMU), demonstrates notable advancements. The SBP's dedicated TBML risk management framework imposes obligations on authorized dealers for enhanced due diligence, red flag monitoring, transaction scrutiny, and suspicious activity reporting, incorporating updated typologies and risk-based supervision principles.

Coordination mechanisms among the SBP, FMU, Federal Board of Revenue, and customs authorities have improved to some extent, with greater emphasis on intelligence sharing and compliance training. Nevertheless, significant gaps persist: limited technological integration for real-time data matching between trade and financial records, resource constraints hindering advanced analytics and comprehensive enforcement, fragmented inter-agency collaboration, and insufficient sector-specific focus on vulnerable commodities. These shortcomings allow TBML schemes to persist and evolve, undermining the full effectiveness of existing measures despite alignment with international standards promoted by the FATF and APG.

Policy Implications for Pakistan

The findings carry substantial implications for strengthening Pakistan's defenses against TBML and safeguarding economic integrity. First, there is an urgent need to prioritize technological modernization across regulatory institutions. Implementing integrated digital platforms that enable automated cross-verification of import-export declarations, commercial invoices, bills of lading, and banking transactions would significantly enhance anomaly detection. Adoption of data

analytics tools for price benchmarking against international market references and pattern recognition in trade flows could shift the approach from predominantly reactive to proactive risk management. Second, deepening inter-agency coordination through formalized protocols, joint task forces, and shared databases between the SBP, FMU, customs, and tax authorities is essential to overcome current silos and ensure timely intelligence dissemination.

Third, capacity building must receive sustained investment. Comprehensive, ongoing training programs for banking staff, customs officers, and FMU analysts on emerging TBML typologies, commodity-specific risks, and red flag interpretation would improve detection accuracy. Fourth, targeted sectoral interventions are warranted, particularly for high-risk commodities and trade corridors, through tailored guidelines, enhanced scrutiny thresholds, and periodic risk profiling. Fifth, addressing the interface between formal trade and informal channels requires a balanced strategy that combines enforcement with incentives for formalization, such as streamlined trade finance access for compliant businesses. Finally, reinforcing international cooperation through expanded participation in regional data-sharing initiatives, technical assistance from FATF-style regional bodies, and mutual legal assistance would bolster Pakistan's ability to trace cross-border TBML networks. These policy directions, if pursued systematically, would not only mitigate TBML risks but also protect foreign exchange reserves, enhance revenue collection, strengthen national security, and reinforce Pakistan's standing in global financial integrity assessments.

Limitations and Future Research

While this study provides a comprehensive overview based on secondary documentary analysis, certain limitations should be acknowledged. The reliance on publicly available sources, while ensuring credibility and objectivity, restricts access to sensitive enforcement case details, internal risk assessment data, or granular suspicious transaction statistics that remain classified. The qualitative, desk-based methodology precludes primary empirical testing of detection effectiveness or quantitative measurement of TBML volumes, which could offer more precise estimates of impact. Temporal constraints also mean that the analysis reflects frameworks and practices up to the most recent publicly documented updates, potentially missing very recent policy developments.

Future research could address these gaps through mixed-methods approaches incorporating primary data collection, such as structured interviews with regulators, compliance officers, and customs officials to capture implementation realities and operational challenges. Quantitative studies leveraging trade statistics discrepancies, paired import-export data analysis, or econometric modeling of suspicious patterns in high-risk sectors would provide deeper insight into the scale and economic effects of TBML in Pakistan. Comparative analyses with other trade-dependent jurisdictions in South Asia or emerging economies facing similar vulnerabilities could highlight transferable best practices and unique contextual factors. Longitudinal research tracking the evolution of TBML techniques and regulatory responses over time would further illuminate adaptive dynamics and measure the long-term efficacy of reforms. Such avenues would enrich the evidence base and support more targeted, evidence-driven policymaking to combat this sophisticated form of financial crime.

Recommendations

Enhance Trade Data Analytics

To effectively counter trade-based money laundering (TBML), Pakistan must prioritize the development and deployment of advanced trade data analytics capabilities across relevant institutions. The current reliance on manual verification and fragmented data systems significantly

hampers the ability to detect sophisticated manipulation techniques such as price anomalies, quantity discrepancies, and misdescription of goods. Implementing an integrated national trade intelligence platform that consolidates import-export declarations, commercial invoices, bills of lading, shipping manifests, and corresponding banking transactions would enable real-time cross-matching and automated flagging of inconsistencies. Such a platform should incorporate artificial intelligence and machine learning algorithms trained on historical trade patterns, international commodity price benchmarks, and known TBML typologies to identify outliers with greater accuracy and speed. For instance, automated price deviation alerts could compare declared unit values against global market references for high-risk commodities like textiles, solar panels, rice, and chemicals, triggering immediate review when thresholds are breached.

Furthermore, the adoption of big data analytics tools would facilitate the analysis of large-scale trade datasets to uncover systemic patterns, such as repeated round-tripping of goods, frequent involvement of newly established entities in high-value transactions, or unusual routing through multiple jurisdictions. Linking this platform with the State Bank of Pakistan's foreign exchange monitoring systems and the Financial Monitoring Unit's suspicious transaction database would create a unified view of trade-finance flows, allowing for proactive identification of potential TBML schemes before funds are fully integrated into the legitimate economy. Investment in secure data-sharing protocols compliant with privacy and data protection standards is essential to ensure seamless yet controlled access across agencies. Pilot projects focusing on high-risk sectors and trade corridors could demonstrate feasibility and refine algorithms before nationwide rollout. Over time, these enhancements would shift the paradigm from reactive case-by-case investigation to predictive, intelligence-led enforcement, substantially raising the cost and risk for illicit actors attempting to exploit Pakistan's trade channels.

Strengthen Inter-Agency Collaboration

Effective combat against TBML demands seamless coordination among key institutions, including the State Bank of Pakistan, Financial Monitoring Unit, Federal Board of Revenue, Pakistan Customs Service, and law enforcement agencies. Current efforts, while improved, continue to suffer from information silos, differing priorities, and limited joint operational mechanisms. Establishing a dedicated inter-agency TBML task force, with permanent representation from each major stakeholder, would provide a structured forum for regular threat briefings, joint risk assessments, and coordinated response planning. This task force should be mandated to develop standardized protocols for information exchange, including secure digital channels for real-time sharing of trade declarations, financial intelligence, and suspicious activity indicators.

Joint operational protocols should include procedures for rapid referral of high-risk transactions identified by banks to customs for physical inspection or documentary verification, and vice versa for customs findings to be fed back into financial intelligence analysis. Regular cross-training exercises and simulation drills simulating TBML scenarios would build mutual understanding of each agency's capabilities and constraints. Formal memoranda of understanding should outline clear roles, timelines for information sharing, and accountability mechanisms to prevent duplication or oversight. Additionally, integrating representatives from the private sector particularly trade finance departments of major banks and industry associations into advisory committees would enrich threat intelligence with frontline insights while fostering voluntary compliance through shared best practices. By institutionalizing these collaborative structures, Pakistan can overcome fragmentation and create a more cohesive, multi-layered defense against TBML that leverages the complementary strengths of regulatory, customs, and financial oversight bodies.

Capacity Building and Awareness

Sustained capacity building and awareness initiatives represent a foundational requirement for long-term success in mitigating TBML risks. Frontline staff in banks, customs, and regulatory agencies require continuous, specialized training on the evolving nature of TBML techniques, including emerging methods such as digital trade manipulation, cryptocurrency intersections with trade finance, and exploitation of free trade zones. Training programs should move beyond basic compliance modules to include practical case studies, red flag interpretation workshops, commodity-specific risk profiling, and hands-on exercises using anonymized real-world data. The State Bank of Pakistan and Financial Monitoring Unit should collaborate with international partners to deliver advanced programs, incorporating global typologies and lessons from jurisdictions with mature TBML detection regimes.

Simultaneously, targeted awareness campaigns aimed at the private sector importers, exporters, freight forwarders, and customs brokers are critical to encourage voluntary compliance and early reporting of suspicious activities. Industry associations can play a pivotal role in disseminating guidance, hosting seminars, and developing self-assessment tools that help businesses identify and mitigate internal TBML risks. Incentives such as streamlined processing for compliant traders or recognition programs for entities demonstrating robust due diligence could further motivate adherence. Public-private dialogues should be institutionalized to share sanitized threat intelligence and discuss practical challenges in implementation. By embedding a culture of vigilance and continuous learning across both public and private sectors, Pakistan can significantly elevate its collective resilience against TBML, ensuring that regulatory frameworks are not only in place but actively understood, applied, and adapted to emerging threats.

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