

Trade-based money laundering in Bangladesh: Evidence from matched Letter of Credit and Customs records

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- This study constructs the first transaction-level dataset for detecting import over-invoicing in Bangladesh, matching approximately 5.5 million Letter of Credit settlement records from Bangladesh Bank against Bill of Entry data from Customs, covering FY 2020-21 to FY 2024-25.
- From a matched working sample of roughly 720,000 transactions focused on imports from China and India, 63 commodity categories from India and 40 from China recorded over-invoicing ratios above 10% at some point during the five-year period; of these, 46 Indian-origin and 23 Chinese-origin categories showed repeat suspicious transactions across multiple fiscal years.
- Individual over-invoicing ratios reach extraordinary levels: railway and tramway equipment from China recorded 23,130% in FY 2024-25, fertilisers from China reached 2,904% in FY 2021-22, and pharmaceutical products from India showed Letter of Credit payments of USD 62.7 million against USD 29.6 million in Customs records in FY 2020-21.
- The study recommends explicitly criminalising trade misinvoicing, strengthening enforcement capacity across Bangladesh Bank, Customs, and the National Board of Revenue, providing real-time commodity price benchmarks at customs clearance, and establishing an independent Trade Transparency Unit.

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Policy motivation

Bangladesh loses an estimated USD 16 billion to illicit financial outflows annually, equivalent to roughly 3.4% of GDP, according to the 2024 White Paper on the State of the Bangladesh Economy. A significant share of this is believed to flow through trade-based money laundering (TBML): the practice of disguising illicit fund transfers by deliberately misrepresenting the price, quantity, or quality of traded goods. TBML is not a peripheral concern. A 2021 report by Global Financial Integrity ranked Bangladesh among the highest-risk countries in the world for trade mis-invoicing. A special audit by Bangladesh Bank in 2022 found that some importers were inflating declared prices by between 20% and 200% at the time of Letter of Credit (LC) issuance.

Import over-invoicing is the dominant form of TBML in Bangladesh. The mechanism is straightforward: an importer settles an LC through the banking system for an amount substantially exceeding the value of goods that actually clear customs. The surplus is transferred to the foreign exporter or to an account controlled by the importer abroad, and the domestic economy absorbs the loss. Despite widespread awareness of this practice, systematic detection has remained elusive. Bangladesh generates substantial administrative data on both sides of the transaction, through the LC records held by Bangladesh Bank and the Bill of Entry (BOE) records held by Customs. What has been missing is a unified analytical framework that brings these two data streams together at the transaction level. This study is the first attempt to build that framework.

Data sources and analysis

The study draws on three data sources. LC settlement data from Bangladesh Bank, covering approximately 5.5 million records across five fiscal years, captures what importers paid through the formal banking system. Bill of Entry data from Customs captures the declared value of goods at the border. After matching the two datasets, a working sample of roughly 720,000 transactions is constructed, focused on imports from China and India. UN Comtrade unit price data at the HS 6-digit level serve as an external benchmark, allowing the study to assess whether both the LC and Customs figures are plausible against international norms.

The over-invoicing (OI) ratio, computed as the percentage difference between the LC settlement value and the Customs-recorded import value, is the primary measure of how suspicious any given transaction is. Transactions are classified into three categories. Those for which the LC and Customs values are well-aligned and the gap between settlement and import clearance falls within 60 days are classified as white (non-suspicious). Those for which the LC settlement value exceeds 110% of the Customs-recorded import value, or for

which an LC payment was made but no corresponding Customs import record can be found, are classified as black (suspicious). Those in the undetermined zone, where matching is ambiguous or timing is anomalous, are classified as grey. The classification framework was developed in consultation with relevant public officials, lending it operational credibility. The 10% threshold is the agreed tolerance for value differences that might arise from legitimate settlement lags or recording inconsistencies.

The study is explicit about what this classification does and does not establish. Not all transactions flagged as black constitute money laundering in the legal sense. Some portion of the gap between LC and Customs values may reflect timing differences, currency conversion lags, or classification mismatches between datasets. What the data establish clearly is that systematic discrepancies exist, at a scale and with a regularity across commodity categories and fiscal years that cannot be explained by administrative noise alone.

TABLE 1: Transaction classification framework

Category	Definition	Operational criteria
White (non-suspicious)	LC and Customs values are well-aligned and transaction timing is within normal bounds.	LC settlement value does not exceed 110% of Customs-recorded import value; settlement and import dates fall within 60 days; a corresponding Customs record exists.
Black (suspicious)	A substantial discrepancy exists between the LC payment and the Customs-recorded import value.	LC settlement value exceeds 110% of Customs value; OR an LC payment was made with no corresponding Customs import record.
Grey (undetermined)	Matching is ambiguous or settlement timing is anomalous; the transaction cannot be confidently classified.	LC value matches a zero-value Customs record; settlement lag is unusually long; or records exist in only one dataset without clear explanation.

Note: Classification framework validated in consultation with relevant public officials.

Key findings

Seasonal concentration of suspicious transactions

The monthly trend in mean OI ratios shows that suspicious activity is not randomly distributed across the fiscal year. For Chinese-origin imports, the concentration of high OI ratios falls between December and March in FY 2024-25, with a pronounced spike in February 2025. For Indian-origin imports, the comparable peak falls in the October to December window of FY 2023-24. These patterns recur across fiscal years rather than appearing as isolated anomalies. Whether this regularity reflects deliberate timing by importers, commodity-specific procurement cycles, or variation in monitoring intensity at different points of the year is a question for subsequent research. That the pattern is consistent enough to be visible in the data, however, is itself a finding: it points to systematic rather than opportunistic behaviour.

The commodity-level breadth of the problem

The breadth of the problem across commodity categories is the study's most consequential finding. Over five fiscal years, 40 commodity categories at the HS two-digit level imported from China recorded OI ratios above 10% at some point during the period. For India, the figure is 63 categories. More telling than the total count is the degree of recurrence: of the 40 Chinese-origin categories, 23 showed repeat suspicious transactions across multiple fiscal years, and of the 63 Indian-origin categories, 46 did. This persistence across diverse commodities, including inorganic chemicals, ores and slag, edible vegetables, animal fodder, glues and enzymes, pharmaceutical products, and fertilisers, is inconsistent with the hypothesis that over-invoicing is driven by temporary disruptions in a handful of commodity markets. It points to entrenched behaviour across a substantial part of Bangladesh's formal import trade with its two largest source countries.

The scale of individual commodity outliers

Some individual commodity-level OI ratios reach extraordinary levels. Railway and tramway equipment from China (HS code 86) recorded an OI ratio of 23,130 percent in FY 2024-25, meaning that the LC settlement value was roughly 232 times the Customs-recorded import value for that commodity in that year. Fertilisers from China (HS code 31) reached 2,904 percent in FY 2021-22, and the same category from India reached 3,120 percent in the same fiscal year. These ratios warrant careful scrutiny before they are taken at face value:

unit mismatches between the LC and Customs datasets are a plausible partial explanation, and the study acknowledges this directly.

Even setting aside the most extreme cases, the more moderate OI ratios tell a consequential story. Pharmaceutical products from India (HS code 30) recorded an OI ratio of 112 percent in FY 2020-21, significant not merely for the percentage but for the absolute values involved: USD 62.7 million in LC settlements against USD 29.6 million in Customs-recorded imports. A discrepancy of this magnitude on a commodity of this sensitivity cannot be explained away by recording differences.

BOX 1: The scale of the problem

USD 16 billion: estimated average annual illicit financial outflow from Bangladesh, equivalent to 3.4% of GDP (2009–2023), according to the 2024 White Paper on the State of the Bangladesh Economy.

23,130%: highest single-commodity over-invoicing ratio in the dataset, for railway and tramway equipment from China in FY 2024-25.

63 and 40: number of HS 2-digit commodity categories from India and China respectively recording OI ratios above 10%, of which 46 and 23 showed repeat suspicious transactions across multiple fiscal years.

Policy implications

If USD 16 billion is leaving Bangladesh annually through illicit channels, and if trade-based over-invoicing accounts for a significant portion of that, then the tools needed to detect and curtail it are a fiscal and governance priority, not an optional upgrade to the monitoring infrastructure.

Criminalise trade mis-invoicing explicitly

Bangladesh's legal framework does not currently treat trade misinvoicing as a distinct criminal offence. A specific provision, with penalties calibrated to deter repeat offenders rather than to be absorbed as a cost of doing business, is the most immediate legislative requirement.

Strengthen enforcement capacity across agencies

The Transfer Pricing Cell at the National Board of Revenue, anti-money laundering focal points in commercial banks, and Customs officials at ports of entry all require greater analytical capacity. Enforcement is only as effective as

the weakest link in the chain that runs from LC issuance to final goods clearance. Coordinated resource allocation across these bodies is a precondition for any transaction-level monitoring system to function effectively.

Provide real-time commodity price benchmarks at Customs

Access to real-time international commodity price data would allow Customs officers to flag suspicious invoices at entry rather than weeks or months after clearance. This is a minimum operational standard for credible trade monitoring. UN Comtrade unit price data, updated at sufficiently high frequency, could serve this purpose and is already used as the external benchmark in this study.

Establish an independent Trade Transparency Unit

A dedicated cross-agency unit, analogous to trade transparency bodies in peer economies, would centralise TBML monitoring, coordinate data flows between Bangladesh Bank, Customs, and the NBR, and produce regular public reports. Its independence from any individual agency's operational mandate is important for both credibility and analytical continuity.

Adopt technology-assisted detection for high-risk commodities

AI-assisted invoice analysis and blockchain-based trade documentation are increasingly deployed by enforcement authorities elsewhere to detect pricing anomalies at scale. Bangladesh's enforcement infrastructure should invest in these tools incrementally, beginning with the 46 Indian-origin and 23 Chinese-origin commodity categories already identified as showing repeated suspicious transactions.

Extend the analysis to HS six-digit level and additional trading partners

The current study operates at the HS two-digit level and covers only China and India. Extending the analysis to HS six-digit granularity would sharpen the ability to identify specific products and supply chains where over-invoicing is most concentrated. Incorporating additional significant trading partners would give enforcement agencies a more complete picture of Bangladesh's exposure to TBML across its import base.

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