RESEARCH ARTICLE

Trade Finance Gap: Why Credit Risk Mitigants Are Not Applied

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ABSTRACT

Banks play a vital role in global trade. However, an existing gap persists in fulfilling the demand for trade finance transactions, predominantly in developing countries with high credit and country risks. These risks can be hedged with credit risk mitigants (CRMs). This study aims to identify and analyse the barriers preventing banks from using CRMs. Employing a qualitative research approach, data were collected through semi-structured, in-depth interviews with trade finance bankers from various regions. Our study shows that, despite the availability, banks do not always use CRMs efficiently. The findings reveal a comprehensive set of factors influencing the decision to decline trade financing requests, categorised into three groups: regulatory, organisational and individual constraints. The implications of our research suggest that by managing CRMs more effectively, banks could approve more transactions, helping to close the trade finance gap. This study offers substantial contributions to the existing trade finance literature. It holds significant implications for financial institutions and a diverse spectrum of stakeholders, including exporters, importers, development banks, export credit agencies, insurance companies and policymakers. Additionally, it underscores the need for harmonised global policies to ensure consistent regulatory frameworks and facilitate smoother trade finance transactions worldwide.

1 | The Unfulfilled Demand in Trade Finance

Global trade is crucial for the growth and development of any economy, with financial institutions playing a key role in facilitating international flows through trade finance. However, financing remains a significant obstacle to trade. Several studies have reported that a lack of trade finance is one of the primary reasons for the decline in global trade (Auboin 2009; Chor and Manova 2012; Haddad et al. 2010) and accounted for approximately 15%–20% of the sharp decline in trade during the 2008–2009 financial crisis (Starnes and Nana 2020). The importance of financing for international trade and the role of financial institutions in supporting it are well-established in the literature (Amiti and Weinstein 2011; Niepmann and Schmidt-Eisenlohr 2017). Nonetheless, financial institutions may not always be willing to provide all necessary financing, leading to a trade finance gap. Therefore, it is essential to explore strategies to reduce this gap and enhance access to trade financing to facilitate global trade transactions.

The term 'trade finance gap' describes the unmet demand for trade finance, where transactions agreed upon by exporters and importers remain unrealised due to insufficient finance. The Asian Development Bank (ADB) estimated a trade finance gap of around $2.5 trillion in 2022, representing approximately 10% of global merchandise trade volumes (Beck et al. 2023). Various factors contributing to this gap have been identified, with legal and regulatory aspects, especially those related to due diligence and capital and liquidity requirements, being among the most relevant alongside non-payment risk (Auboin

Policy implications

- Policymakers should work toward harmonising global banking regulations to ensure that using CRMs provides consistent capital and credit relief benefits across all jurisdictions.
- Policymakers and the banking industry should collaborate to establish centralised KYC repositories to reduce compliance costs and streamline due diligence processes.
- Banks should develop standardised procedures for assessing and applying CRMs, ensuring consistency and transparency. Additionally, they should invest in IT infrastructure to facilitate the efficient registration, tracking and monitoring of CRMs.
- Banks should implement internal accounting systems that accurately track CRM-backed transactions, ensuring their financial benefits are properly reflected in each department's performance metrics.
- Promote public-public partnerships between banks, ECAs, insurance companies, MDBs, and regulatory bodies to create a comprehensive international dataset for trade finance and CRMs.
- Policymakers and industry associations should increase investments in learning and development programmes for trade finance bankers and bank management.

and DiCaprio 2017; DiCaprio and Yao 2017; Kim et al. 2021). Regional disparities in the trade finance gap are significant, with the highest unmet demand observed in Asia and the Pacific (34% of rejections), followed by Africa and the Middle East (24%) (Di Caprio et al. 2016). In particular, the Economic Community of West African States, comprising countries like Côte d'Ivoire, Ghana, Nigeria, and Senegal, faces an annual trade finance gap of around $14 billion, with rejection rates of 21% of requests and 25% of their total value (IFC and WTO 2022). The trade finance gap is increasing, and more research is needed to understand the drivers and develop targeted solutions.

The letter of credit (LC) is the oldest and most common trade finance instrument, particularly in emerging markets (Ahn and Sarmiento 2019; Schmidt-Eisenlohr 2013). Confirming banks are committed to paying the exporter regardless of any default by the issuing bank. One of the main reasons they reject the confirmation of LCs is the low credit rating of the issuing bank and its country risk, which can be hedged with credit risk mitigants (CRMs) (DiCaprio and Yao 2017). According to the ADB survey on the trade finance gap, a leading measure of the state of trade finance worldwide, 54% of participating banks identified the low credit ratings of issuing banks as a significant obstacle to providing trade finance services (Beck et al. 2023). This study contributes to the existing literature by examining whether banks explore risk-mitigating tools to hedge commercial and country risk before declining a LC confirmation. It also identifies the constraints that prevent them from doing so, thereby leading to transaction rejection.

Credit and country risk can be mitigated with CRMs, and these instruments can be extracted from Asmundson et al. (2011) and Cavoli et al. (2022). Export Credit Agencies (ECAs), private insurance companies, Multilateral Development Banks (MDBs), and the bank-to-bank market are the primary providers of risk mitigation in trade finance. ECAs and private insurance companies offer export credit insurance, while MDBs offer guarantees under their trade facilitation programs. Financial institutions can sell trade finance risk participations in the bank-to-bank market. These mitigants provide financial institutions with capital and credit relief. Very little is known in the literature about trade finance CRMs available to banks to prevent transaction rejections. There have been calls for further research to identify the drivers that restrict access to trade finance and improve trade finance policies (Kim et al. 2022). The challenge of accessing nonpublic data from financial institutions is cited as a reason for the limited trade finance research (Auboin 2015, 2021; DiCaprio and Yao 2017).

This study started by addressing two research questions: What drives banks to decline trade finance transactions? Do they efficiently use CRMs? To answer this, we obtained data from interviews with 38 senior trade finance bankers and decision-makers in credit risk mitigant use. Employing a qualitative methodology, we explored factors influencing banks in selecting and using CRMs for trade finance transactions, with a focus on letters of credit. The study aims to identify constraints hindering banks from using CRMs, with the goal of proposing solutions to enhance access to trade finance.

Qualitative research on the behaviour of banks regarding the use of CRMs in trade finance has not been previously undertaken. To the best of our knowledge, this is the first study to use a qualitative approach to explore the experience of bankers when analysing CRMs for a trade finance transaction and uncover the drivers behind the rejection of letters of credit confirmation. The study presents unique and valuable findings that can only be obtained through qualitative interviews, with some information being sensitive and unlikely to be disclosed in surveys or written documents by bankers. While previous studies have examined the drivers for rejecting trade finance transactions, they have not delved into the use of CRMs in trade finance.

This study provides a comprehensive framework for understanding the constraints trade finance bankers face in utilising CRMs, contributing significantly to the expanding literature on trade finance—an increasingly studied domain. Our study develops a new understanding of the reasons behind the rejection of trade finance transactions, identifying constraints grouped into three categories: regulatory, organisational and individual. Our findings imply that implementing improved policies and banking procedures for credit risk mitigation could potentially reduce the number of trade financing rejections. Furthermore, this study is relevant for practitioners and policymakers aiming to enhance their understanding of the particularities of CRMs to prevent trade finance transaction rejections.

The remainder of this paper is organised as follows. Section 2 introduces CRMs in trade finance and their respective

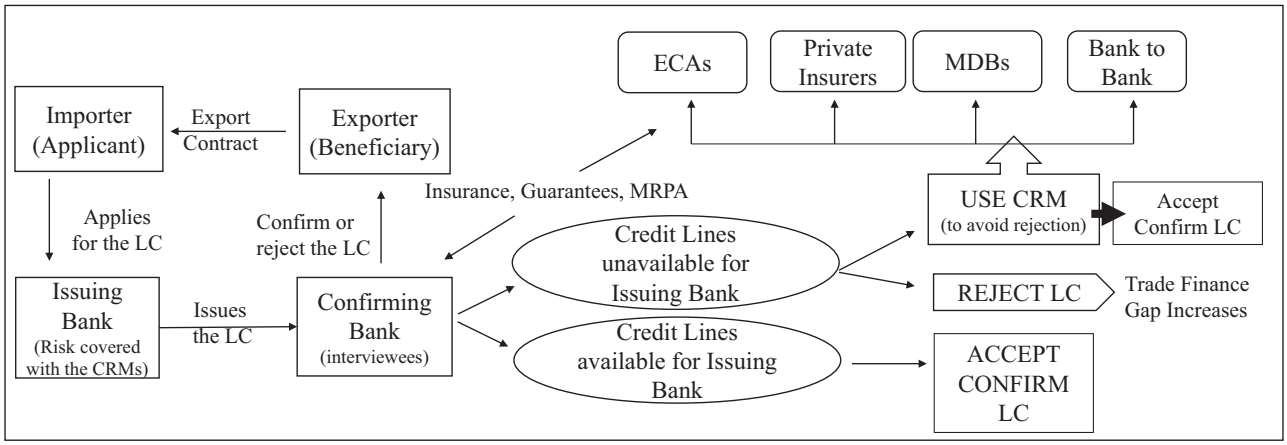

FIGURE 1 | Flow and options of credit risk mitigants for a confirmation of a letter of credit (LC). *Source:* Developed for this study by the authors.

providers. Section 3 provides a brief review of the related literature. Section 4 describes the research method. Section 5 presents and discusses the results. Section 6 concludes and highlights the policy implications.

2 | Credit Risk Mitigants in Trade Finance

One of the most significant risks in trade finance is credit risk, which arises from the possibility that a party involved in a trade transaction may default on its payment obligations. This risk can result from various factors, including the financial instability of the buyer (commercial risk), as well as broader economic, political and regulatory conditions (political risk). Various trade finance instruments are available to companies to facilitate international trade while mitigating risks associated with cross-border transactions. An LC is a commonly used financial instrument that provides payment assurance. Issued by a bank (the issuing bank), it guarantees payment to the exporter (beneficiary) once the agreed-upon conditions are met, reducing the risk of default and promoting trust between trading parties (Dornel et al. 2021). If the LC is confirmed, the exporter faces no risk from the issuing bank, as the confirming bank assumes that risk.

Therefore, when banks confirm LCs, they assume the risk of non-payment by the issuing bank, necessitating credit lines from the importer's bank and country (Crozet et al. 2022). Interbank credit limits are a limited resource in trade finance, particularly when the obligor is based in a developing country. The availability of these credit lines may be constrained due to prior transactions or concerns over the issuing bank's creditworthiness or country risk. This can lead to transaction rejections, exacerbating the trade finance gap. Nevertheless, banks can mitigate this risk using CRMs. Key providers of credit mitigation in trade finance are ECAs, private insurers, MDBs, and other banks in the secondary market. Importantly, banks must allocate capital and credit to the issuing bank for confirming LCs, but CRMs help by reducing regulatory capital requirements and providing credit relief. Figure 1 illustrates participants in an LC, showing options for credit risk mitigation when credit lines for the issuing bank are unavailable and visualising the decision paths for accepting or rejecting an LC.

ECAs are institutions established to support and promote the exports of their home countries. These agencies can be private companies or semi-governmental bodies, with their structure and function varying by country (Klasen 2014). One of the products ECAs offer is insurance for the confirmation of LCs, which typically covers between 95% and 100% of the risk, depending on the ECA and the specific transaction. A key condition for accessing this insurance is that the exporter must be based in the country of the ECA, meaning that each transaction can only involve the ECA corresponding to the exporter's nationality and the goods or services being traded. LC confirmation insurance safeguards confirming banks by covering the risk of non-payment by the issuing bank.

Credit insurance from private insurers is another tool that banks can use to mitigate and diversify their credit risk, which protects against losses from the non-payment of trade debts. To meet Basel requirements, policies must cover non-payment by the obligor for any reason. One common requirement is minimum risk retention, which mandates that the insured retain a specified percentage of the exposure without insurance or hedging. Therefore, this product does not allow banks to cover 100% of the risk, usually covering up to 90% of any given loss. Currently, around 60 insurers actively operate in the global credit insurance market. These insurers hold investment-grade credit ratings, ranging from A- to AA, as assessed by agencies such as Fitch, Moody's and S&P. (IACMP and ITFA 2023).

MDBs offer trade finance programs that provide partial or full guarantees to international banks (confirming banks) to cover the commercial and political payment risks associated with banks in emerging markets (issuing banks) for trade-related transactions (Henderson and Smallridge 2019). These transactions can involve instruments such as LCs, promissory notes, bills of exchange, bid, performance and advance payment bonds. Major MDBs with such programs include the International Finance Corporation, which operates globally in emerging markets; the Inter-American Development Bank for Latin America and the Caribbean; the African Development Bank for Africa; and the Asian Development Bank for Asia. These trade finance programs help facilitate access to international trade financing in developing economies, thereby reducing risks for financial intermediaries. Banks utilize these guarantees to mitigate risks

when confirming trade finance instruments issued by banks in emerging markets, where the perceived risks of default or political instability are higher. In the event of a default by the issuing bank, the confirming bank can claim payment from the respective MDB.

Lastly, banks mitigate credit risk in trade finance through the bank-to-bank market, utilising funded or unfunded risk participation with other financial institutions. A widely adopted framework for these transactions is the Master Risk Participation Agreement (MRPA), standardised by the Bankers Association for Finance and Trade (BAFT). Originally introduced in 2008, this MRPA—governed by English and New York law—has become the industry standard for facilitating the transfer of trade finance-related assets between banks. The agreement streamlines documentation, reduces legal costs, and enhances efficiency by minimising the need for extensive bilateral negotiations. Recognising evolving market needs, the agreement templates were updated in 2018 and 2019, respectively, with further revisions in 2022 to address regulatory changes, including the transition away from LIBOR (BAFT 2022). These agreements play an important role in risk distribution, allowing banks to manage country and counterparty risks while promoting liquidity in global trade finance markets.

Data on the volumes of different CRMs in trade finance is limited, and no single source offers a comprehensive overview of all instruments. The challenges include confidentiality requirements from banks and private insurance companies, differing methodologies across sources, inconsistent reporting practices, and the tendency to aggregate data for credit insurance with other types of insurance. This makes it difficult to obtain a clear understanding of the volume and use of each mitigation instrument. The Berne Union, a global association of export credit and investment insurers, publishes some data on total commitments, insured trade volumes, and claims from its members (ECAs and private insurers). These members collectively provide trade credit insurance for 13% of global trade. In 2023, a total of USD 2,78 trillion of credit insurance was extended, with 45% originating from public insurers (ECAs) and 55% from private insurers (Berne Union 2024). However, there is no available breakdown specifying whether the clients were corporations or banks, nor is there a detailed categorisation of the types of instruments, such as LCs. According to ICISA, the International Credit Insurance & Surety Association, private sector insurers accounted for 72% of short-term trade credit insurance coverage in 2023 (ICISA 2025). The volume of financing provided by MDBs can be derived from their annual reports; however, distinguishing between guarantees and direct financing remains challenging. In 2022, the short-term financing volume from MDBs was estimated at $7,3 billion (Multilateral Development Banks and Development Finance Institutions 2024).

3 | Related Literature

According to the World Trade Organisation, approximately 60%–80% of global trade involves trade finance instruments (Beck et al. 2023). Trade finance data are limited and are mainly obtained through market surveys from the International Monetary Fund and the Bankers Association for Finance and Trade, the International Chamber of Commerce, the Bank for International Settlements, the World Bank and the Asian Development Bank (Dornel et al. 2021; Sturgess 2019;). However, research on trade finance is limited due to challenges in accessing comprehensive data from financial institutions (Antràs and Foley 2015; Auboin 2009; Jesswein 2008). Most studies in this area rely on data from single banks, firms or countries (Ahn and Sarmiento 2019; Antràs and Foley 2015; Chor and Manova 2012; Demir et al. 2017).

Academic research in trade finance has gained attention since the 2008 financial crisis. Our study is related to three strands of trade finance literature. First, it is associated with literature on the role of banks in global trade. Trade finance is mainly provided by banks (Amiti and Weinstein 2011) and is an important business area for most commercial banks worldwide (Kowit et al. 2016), with a significant concentration in large global banks (Bank of International Settlements 2014). Among the financing products, trade finance is one of the safest instruments, with a low default rate, as indicated by ICC data (International Chamber of Commerce 2020). Banks facilitate global trade by assuming corporate risk through import letters of credit and bank guarantees, financial institution risk through letters of credit confirmations and receivable financing (Dornel et al. 2021). LC is the most common instrument when dealing with high-risk counterparties and countries. Niepmann and Schmidt-Eisenlohr (2017) found that the supply of letters of credit significantly affects global trade, and even the behavior of a single bank can affect aggregate trade flow. Moreover, the trade finance study group created by the Bank of International Settlements estimated that around 15% of global merchandise trade was financed by letters of credit in 2011 and 2012. This percentage varies at the country level, with letters of credit being the most used instrument in trade involving emerging market economies (Bank of International Settlements 2014).

Second, this study is related to the literature focusing on the trade finance gap and its drivers. The trade finance gap reflects a structural market failure (Auboin and DiCaprio 2017), and a growing number of studies have investigated the reasons for the trade finance gap. Kim et al. (2021) explained banks' barriers to approving trade finance transactions. Using data from the 2016 Asian Development Bank Trade Finance Survey, Auboin and DiCaprio (2017) and DiCaprio and Yao (2017) studied the drivers that lead banks to reject trade finance transactions. Based on the survey results of ADB, the main historical drivers of rejecting letters of credit are legal requirements for anti-money laundering (AML) and know-your-customer, Basel capital regulatory requirements, issuing banks' low credit ratings, and high transaction costs or low fee income. According to Basel regulations, banks must allocate capital when confirming letters of credit. Since 2007, banking regulations have become stricter with capital requirements and AML, resulting in the closing of client relationships and the rejection of transactions, thereby increasing the trade finance gap (Henderson and Smallridge 2019). Banks reject more letters of credit from emerging countries (DiCaprio and Yao 2017) as political risk has country-level effects on firms (Jiménez and Bjorvatn 2018) and impacts bank lending on capital (Janbaz et al. 2022). Exporters and importers heavily demand letters of credit in times of market uncertainty; however,

if banks are in financial distress, the issuance and confirmation of letters of credit become difficult (Ahn and Sarmiento 2019; Crozet et al. 2022). In this case, the simple outcome could be to reject the transaction, increasing the trade finance gap; however, risk mitigants are available for banks to avoid rejecting the transactions.

Third, our work relates to the literature on trade finance credit risk mitigation, which mainly focuses on the roles of ECAs, private insurance, and MDBs. These mitigation instruments ensure the default risk of the issuing bank and allow confirming banks to reduce their capital requirements. According to Demir et al. (2017), the volume of letters of credit decreases when the associated risk weights for counterparty exposure increase. Literature analyses the effectiveness of CRMs in trade as a means of stimulating exports. ECAs' products complement the private market, particularly in cases with longer operation timelines or higher-risk countries (Klasen et al. 2022; Liao 2021). Several studies show how ECAs stimulate international trade, aiding trade in emerging markets. For instance, using data on Austrian exports, Egger and Url (2006) found that public export credit insurance stimulates exports. Heiland and Yalcin (2021) obtained similar results using data from German manufacturing companies and export credit guarantees provided by the German ECA. Additionally, Moser et al. (2008), who used data on German exports, found that political risk has a negative effect on exports and that the use of public export guarantees positively affects exports. Felbermayr and Yalcin (2013) further confirm that public export guarantees increase sectoral exports. Klasen (2014) discovered and tested five firm-related factors that influence demand for export credit insurance from an exporter's point of view. Furthermore, Peterson and Downie (2023) argue that ECAs require more academic attention and suggest directions for further research. Some authors have examined trade finance insurance from private companies. For instance, Van der Veer (2015) analyses the effect of private credit insurance on trade using data from a leading insurer, and Auboin and Engemann (2014) demonstrate the positive impact of credit insurance on trade using Berne Union data.

4 | Materials and Methods

An exploratory qualitative research design was chosen as the most appropriate approach to address the research questions. This methodology is well-suited for investigating complex phenomena where limited prior research exists and the problem has not been clearly defined (Saunders et al. 2007). Given the limited availability of empirical studies on the factors influencing banks' decisions to apply or avoid CRMs in trade finance, an exploratory qualitative approach enables a deeper investigation into the underlying reasons and motivations behind these decisions. The flexible nature of this approach facilitates the collection, analysis and interpretation of qualitative data, allowing researchers to uncover trends in thought, identify barriers and gain comprehensive insights into poorly understood issues (Mbaka and Isiramen 2021).

We employed purposive sampling to select information-rich cases that could provide valuable insights to address our research questions (Patton 2002). In this study, these cases were senior trade finance bankers with decision-making authority over the use of CRMs. Given that the trade finance gap is a global issue, we aimed 'to obtain the broadest range of information and perspectives on the subject of study' (Kuzel 1999, 37) from a diverse, international sample. To identify banks actively engaged in trade finance, we initially contacted the largest global trade finance providers (S&P Global Market Intelligence 2021) and then expanded our selection to include banks active in different regions, identifying them among the members of the International Trade and Forfaiting Association (ITFA), the global trade finance industry association. This process resulted in a final sample of 38 banks, comprising both major global trade finance providers and significant regional banks. The sample distribution was as follows: 38% from Europe, 24% from the Americas, 19% from Asia, and 19% from the Middle East and Africa. Consequently, the sample demonstrates strong representativeness in volume, capturing a significant share of global trade finance activity. Table 1 provides descriptive participant information. To maintain anonymity, each participant was assigned a pseudonym (B, followed by a number).

Data was collected through semi-structured, in-depth interviews. We developed an interview protocol (Online Appendix S1) aligned with our research questions, consisting of ten guiding questions designed to encourage open-ended discussion and allow interviewees to express their perspectives freely. Most interviews were conducted face-to-face in London, where many banks have trade finance operations, while some were held in Porto during an annual ITFA conference. All interviews were conducted in English and lasted between 50 and 90 min. This format facilitated real-time clarification and follow-up questions (Saunders et al. 2007). Data saturation was reached after the 34th interview, as no new themes emerged (Strauss and Corbin 1998). To confirm saturation, we conducted four additional interviews.

Thematic analysis (Braun and Clarke 2022) identified, analysed, and reported patterns among participants. Initial codes were generated from transcribed data, clustered to unveil themes and sub-themes, providing unique insights. To ensure credibility and truth value, we included quotations for each theme in the presentation of the results (Guba and Lincoln 1989). Quotes were selectively chosen to maintain authenticity. Given the sensitive nature of some topics discussed in the interviews, measures were implemented to mitigate participant bias and ensure reliability (Saunders et al. 2007). Participants were selected through direct outreach rather than a general call, minimising self-selection bias. Confidentiality was assured, with participants informed that their names and institutions would remain anonymous, fostering openness in discussions. Rapport and trust were developed with participants to encourage honest responses, supported by the interviewer's background as a former trade finance banker. Although some biases may have persisted, these measures ensured the robustness and credibility of the findings, providing valuable insights into the barriers to CRM adoption.

5 | Results and Discussion

This section presents the results and discussion of the study. It is organised into three main subsections corresponding to the

TABLE 1 | Descriptive information of participants.

Banker pseudonym		Geographical category	Gender	Overall trade finance experience (years)	Experience in participant bank (years)
B	1	Asian Global	Female	> 20	5–10
B	2	Asian Global	Male	> 20	5–10
B	3	European Global	Female	15–20	10–15
B	4	European Global	Female	> 20	> 20
B	5	American Regional	Male	> 20	15–20
B	6	African Regional	Male	> 20	1–5
B	7	Asian Regional	Male	10–15	10–15
B	8	Asian Global	Female	> 20	1–5
B	9	Latam Regional	Female	> 20	1–5
B	10	Insurance broker	Female	> 20	1–5
B	11	African Regional	Male	> 20	1–5
B	12	European Regional	Male	> 20	1–5
B	13	African Regional	Male	15–20	1–5
B	14	Asian Regional	Male	> 20	10–15
B	15	European Regional	Female	10–15	10–15
B	16	European Global	Female	> 20	5–10
B	17	African Regional	Male	> 20	1–5
B	18	European Global	Male	> 20	5–10
B	19	American Global	Male	5–10	1–5
B	20	Middle East Regional	Male	> 20	1–5
B	21	Middle East Regional	Male	> 20	1–5
B	22	American Global	Male	5–10	1–10
B	23	European Regional	Male	> 20	1–5
B	24	American Regional	Female	> 20	10–15
B	25	European Regional	Female	> 20	1–5
B	26	European Global	Male	10–15	5–10
B	27	European Global	Male	5–10	1–5
B	28	European Regional	Male	> 20	1–5
B	29	European Regional	Female	> 20	1–5
B	30	European Regional	Female	> 20	1–5
B	31	European Regional	Female	> 20	15–20
B	32	Latam Regional	Female	> 20	5–10
B	33	Latam Regional	Male	> 20	> 20
B	34	Latam Regional	Male	15–20	5–10
B	35	American Regional	Female	> 20	10–15
B	36	Asian Regional	Female	> 20	15–20
B	37	Asian Regional	Male	> 20	15–20
B	38	Middle East Regional	Female	> 20	1–5

Source: Developed for this study by the authors.

themes discovered in the analysis, each containing several sub-subsections focusing on specific subthemes.

Most informants reported receiving a high volume of trade finance proposals from issuing banks in developing Asia and Africa. However, they face significant challenges in confirming letters of credit, particularly in countries such as Bangladesh, Pakistan, Nigeria and Egypt, which were commonly mentioned as problematic. This aligns with the findings of the Asian Development Bank (Di Caprio et al. 2016), which identifies Asia and Africa as regions where the trade finance gap is most pronounced.

When asked about CRMs, few participants acknowledged awareness and utilisation from all four providers. Surprisingly, only one banker cited using products from all four providers: 'We have approval from around 35 insurance companies, participate in six MDB facilitation programs, utilise short-term ECA programs in countries with commercial banking, and sell risk in the secondary bank market. We evaluate all options and opt for the most profitable one' (B26). In contrast, two Middle Eastern, two Latin American, and two European regional banks lack the infrastructure and knowledge to implement these mitigants, leading to rejections of letters of credit when credit limits are unavailable.

We found that 48% of bankers are active users of CRMs from the bank-to-bank market, while 23% use them occasionally. For private credit insurance, 42% of the participants are active users, and 10% rely on it sporadically. Although 34% know MDBs' trade facilitation programs, only 26% use them. In contrast, engagement with ECAs is minimal, with only 15% utilising their short-term products, as these institutions are more commonly associated with long-term operations. Mitigant usage varies based on different drivers, with no clear patterns by bank size, location, gender, or interviewee experience. Initially focused on regulatory drivers, the study found that other factors significantly impact decision-making. These factors are grouped into three themes: regulatory, organisational, and individual. Figure 2 presents a thematic map summarising the findings, detailing constraints with sub-themes and codes, which will be discussed further in the following sections.

5.1 | Regulatory Constraints

5.1.1 | Know Your Customer Requirements

Letters of credit are exchanged via Swift, an encrypted messaging system requiring banks to exchange and approve Swift keys, now tied to strict Know Your Customer (KYC) protocols. KYC involves verifying identities, understanding banking activities, validating fund sources and assessing money laundering risks. It also requires robust risk management during onboarding, continuous monitoring, and enforcement of customer policies. Non-compliance can lead to significant penalties. After the 2008 financial crisis, stricter KYC requirements became an obstacle to confirming letters of credit from new banks. This aligns with Auboin and DiCaprio's (2017) finding that 90% of respondents faced trade finance challenges due to KYC requirements and costs.

Over the past two decades, banks have faced the imperative to reduce correspondent accounts due to the increasing workload and costs associated with maintaining updated KYC protocols, which impact the profitability of their business. A global banker interviewed highlighted a significant reduction in bank limits, stating, 'Our average annual cost for compliance to maintain an existing bank line is about $75,000. Since 2009, we've reduced the number of bank lines from 8,000 to 2,000' (B24). With KYC prices on the rise, bank lines undergo annual reviews and if not utilised for profitable transactions, they face closure. Another interviewee expressed, 'KYC is a prolonged and costly process. Names approved are reviewed annually, and if no transactions occur, the name is closed' (B1). The rising costs of KYC have been previously noted by Niepmann and Schmidt-Eisenlohr (2017). Additionally, Henderson and Smallridge (2019) elaborate on how regulatory requirements and compliance costs lead banks to de-risk, involving the termination of client relationships and a reduction in trade financing availability. Since the global financial crisis, correspondent banking relationships have decreased by 20%, particularly affecting smaller banks and developing countries (Auboin 2021).

Most trade finance bankers are only mandated to confirm letters of credit for banks with the KYC in place and reject transactions if an exporter seeks confirmation from a bank lacking KYC approval. 'KYC is a big problem in this bank. Without approved KYC, the chances of accepting that bank as a client are minimal, and we decline the transaction' (B16). DiCaprio and Yao (2017) quantified an 8% increase in the rejection rate of trade finance transactions due to the closing of bank correspondent relationships.

Certain CRMs can cover the entire LC amount. However, even if the confirming bank assumes no credit risk, the counterparty line and KYC must be established. According to a statement, 'KYC is very expensive and time-consuming. Without the KYC of an issuing bank in place, we can't confirm the LC, even with a 100% mitigant, leading to transaction rejection' (B31). Our qualitative approach extends the survey findings on the link between due diligence requirements and transaction rejections. It highlights that despite a confirming bank employing a mitigant to cover the entire LC amount, a thorough KYC for the issuing bank is still necessary. Consequently, the mitigant does not provide benefits in this scenario.

5.1.2 | Accounting Requirements

All participants agreed that confirming letters of credit with risk mitigation offers benefits, including avoiding or reducing counterparty and country risk on the issuing bank, along with capital and credit relief. As Klasen (2014) noted, the demand for export credit insurance is significant in high-risk transactions. However, banks vary in their treatment of mitigants, with some not using specific ones due to internal risk policies mandating full risk allocation to the issuing bank, even with a mitigant provider. A participant noted, 'Selling unfunded is an issue. Our credit insists on putting the full amount on the issuing bank as the primary repayment source, so we don't use it; it doesn't solve any credit line issue' (B23). Another participant added, 'Private Insurance is just a mitigant. It's not a true sale. I still need a full credit line for the transaction amount' (B31).

Theme 1: REGULATORY CONSTRAINTS		
Sub-themes	%	Codes
AML Regulation	46%	- Increase of KYC cost - Lenghty process for KYC approval - Mandatory KYC, even with full mitigation
Accounting	38%	- Basel Capital Requirements - Full risk allocation to issuing banks - Gross and net credit limits - Disparate risk-weights - Funded basis for liquidity needs

Theme 2: ORGANISATIONAL CONSTRAINTS		
Sub-themes	%	Codes
Profitability	43%	- High Price of CRMs - Reduction in net profit for the deal
Department Procedures	38%	- Lack of standardised procedures for CRM implementation - Approval hurdles - Approval process frustation - Challenges in creating processes - Difficult to manage internal politics
Department Scale	30%	- Time limitations for exploring CRMs - Small trade finance team - Limited back office resources
IT Systems	11%	- Outdated booking systems - Technical issues to register the capital and credit relief
Business Strategy	46%	- Conservative risk approach - Trade finance not an strategic area
Management Knowledge	35%	- Limited awarenes of the benefits of CRMs - Lack of understanding of the functioning of CRMs
Reputation and Relationship	11%	- Trust partnership with providers

Theme 3: INDIVIDUAL CONSTRAINTS		
Sub-themes	%	Codes
Compensation Policies	32%	- Variation in bonus recognition - Profit-sharing with other departments
Banker Knowledge	35%	- Lack of familiarity with certain CRMs - Absence of prior experience with CRM providers
Banker Personality Traits	38%	- Job security concerns - Limited networking skills - Reluctance to invest effort

FIGURE 2 | Summary of findings. % indicates the percentage of participants who provided quotes related to each sub-theme. *Source:* Developed for this study by the authors based on data from the interviews.

Some banks emphasised maintaining a gross limit for the entire LC amount and a net limit for the portion without mitigation. Consequently, confirming an LC still requires gross limits. 'For insurance and unfunded sales, the bank needs a gross limit for the full amount and a net limit for the non-insured/guaranteed part. For funded sales, it is beneficial, reducing both gross and net limits' (B24).

Basel capital requirements are crucial for all interviewed trade finance bankers, with variations in the capital relief offered by CRMs. Notably, a participant remarked, 'For Letters of credit confirmation, we don't get risk-weight asset relief with insurance. With an MRPA, yes, but with insurance, no. This is our bank's approved risk model' (B18). Another bank (B6) cited diverse credit and capital approaches for entities within each mitigant category, stating, 'Not all insurance companies provide credit and capital relief. It's how our group operates. For instance, I get credit mitigation with Lloyds insurance market, but they aren't eligible for risk-weight asset relief.'

In the bank-to-bank market, selling on a funded basis is considered the only true sale by most banks. This option is preferred, especially when liquidity needs arise, as emphasised: 'Our distribution options are limited due to our balance sheet management policy. Risk Weight Assets are critical, with strict quarterly limits. Most discounted Letters of credit are funded for asset removal' (B22).

The effects of higher capital requirements and limited bank liquidity drive the rejection of trade finance requests (Asmundson et al. 2011; Auboin and DiCaprio 2017; DiCaprio and Yao 2017). Following Turkey's adoption of Basel II, there was a decline in letters of credit for higher-risk counterparties (Demir et al. 2017). Basel Capital regulatory requirements significantly contributed to the trade finance gap (Kim et al. 2021). Despite the potential benefits of CRMs in reducing risk-weighted assets and credit exposure, the lack of harmonisation in how each bank treats these mitigants, influenced by internal risk models, can lead to transaction rejections.

5.2 | Organisational Constraints

5.2.1 | Profitability

Participants commonly cite a lack of profitability as a recurring obstacle in credit risk mitigation selection. Some bankers reveal that their banks find the LC business less profitable, leading to transaction declination due to low pricing. The cost of CRMs influences final profits. One participant stated, 'I don't use insurance; I can't afford to share my profit' (B2), while another mentioned, 'Capital and credit relief are good, but paying insurance companies 75% of our margin is unfavourable' (B7). On the contrary, a participant noted, 'Insurance takes 65% of the price, but selling in the secondary market demands a market price, making it costlier than insurance' (B3). Overall, several banks perceive CRMs as expensive, limiting their use due to a reduction in the transaction's net profit.

Lack of profitability is one reason for rejecting trade finance requests (Auboin 2015, 2021; DiCaprio and Yao 2017; Kim et al. 2021). While CRMs can potentially reduce risk-weighted assets and enhance profitability, their perceived cost hinders their widespread adoption. Many banks view CRMs as expensive, leading to limited utilisation and subsequent rejection of transactions.

5.2.2 | Department Procedures

As per banker interviews, trade finance departments manage CRMs, oversee trade finance product structures, and assist in origination. However, not all banks have standardised procedures for specific mitigants or the power to use them. Some regional banks express frustration with the approval process, hindering effective mitigation utilisation. For instance, one banker stated, 'We could seek board approval to mitigate the LC with insurance, but bosses discouraged it' (B14). Another mentioned, 'Credit risk mitigation for trade finance lacks board approval, requiring case-by-case approval from various committees. Though it needs updating, being a new activity, we must work on it. Sometimes, we decline transactions to avoid certain committee presentations' (B15).

Certain regional banks are actively developing distribution processes, but gaining approval for new products and procedures is challenging. An interviewee shared, 'They trust my knowledge, but understanding internal politics is crucial. It took a year to engage relevant departments and implement distribution. Managing internal politics is the main hurdle' (B16). While some global banks lack approved distribution processes in all subsidiaries, effective internal communication could help them find solutions. As one stated, 'Our technical infrastructure supports sales in seven countries, representing 80% of the total volume. In other countries, we utilise MDBs. Credit limits are global, allowing us to book in one country and sell from another, but we don't do it' (B22).

5.2.3 | Department Scale

A predominant impediment reported was the limited resources available for exploring different credit risk mitigation options owing to the number of people within the trade finance distribution teams and related departments. Bankers have highlighted the importance of having experienced personnel in the back office for letters of credit execution, as extensive documentation is required. While some banks have large trade finance back-office departments, others do not. For example, one interviewee explained, 'If I have a request from a bank and I don't have enough lines, I would put the asset in the secondary market and insurance market. The only way to do business is by implementing distribution, but then I must look at the whole bank. We are a small bank. If I increased the business, my back office would collapse' (B13).

In banks where the distribution department oversees origination and structuring, a recurring comment is the lack of time to properly search for CRMs and reach out to potential banks, insurance companies, and MDBs. One interviewee stated, 'As a two-person team, we don't have time to distribute the risk. We use insurance through a broker for simplicity, and if the broker doesn't provide a quote, we decline the LC confirmation' (B3). While Krummaker (2019) noted that a company's size influences its insurance strategy and demand, we noticed that the scale of the trade finance department impacts the demand for credit risk mitigation.

5.2.4 | Information Technologies (IT) Systems

Four banks reported issues with their IT booking systems, preventing the utilisation of approved CRMs due to registration

challenges. One of them told us, 'Our systems are manual and old; registering credit relief with certain entities becomes problematic, and we have the reject transactions' (B27). The other two reported problems with unfunded participation in the bank-to-bank market. As noted, 'Despite the fact we can use unfunded mitigation, we have a technical issue. Our systems can't reflect unfunded mitigation, which is an ongoing issue. We are exploring external platforms for resolution' (B23). The other cited a challenge related to Basel standardised approach entities, explaining, 'Depending on the group entity, we get capital relief for unfunded risk mitigation under the advanced approach but not under the standardised approach due to an IT issue in our booking systems' (B18). Functional IT systems are crucial for operations; addressing these issues can enhance the capacity for efficient LC confirmations.

5.2.5 | Business Strategy

Not all banks have the same business strategy for trade finance business. In some banks, it is an important business; in others, it is only a support product, and the use of CRMs is limited. We could see banks' declining transactions and not using credit mitigants because trade finance was not a strategic area for banks. As one interviewee explained, 'We could do more business if we used CRMs, but trade finance is not a strategic department for the bank, and they prefer to grow in other areas. We focus on SMEs and can now use mitigants for the corporate risk but not for financial institutions yet' (B15). Some bankers also mentioned that they were not using CRMs because the bank was very conservative and only wanted to confirm letters of credit from the countries they liked. The following quotes illustrate this strategy, 'Historically, we haven't done any distribution. My predecessor was frustrated trying to set up the distribution desk. We do exactly what we like; we don't take any risk we don't like, even with mitigant' (B23), and 'I have commercial pressure, but my mandate is to manage the risk. We are a conservative bank, and I don't have the mandate to find solutions to approve the transactions if we don't like the risk' (B15).

5.2.6 | Management Knowledge

Another research finding is the management's role in understanding the product. Some interviewees, with prior distribution experience, aimed to implement CRMs in their current banks. However, they encountered frustration when presenting their plans because management was unfamiliar with trade finance and its associated CRMs. As one banker noted, 'There is not a distribution department. The management is not familiar with the mitigation instruments. And they don't want to use them. We only use our local ECA sometimes; if we can't do it with the ECA, we decline' (B28). Another frustration reported is the challenge of gaining management trust despite explaining the benefits of CRMs. As one posited, 'We were working on a transaction with International Finance Corporation (IFC), but we couldn't do it for a sovereign issue. I presented several solutions, but I was not heard, and we declined the LC. I know another bank closed it after, but because there was an employee there, ex-IFC, and she could internally persuade the management' (B31). Lack of knowledge was already highlighted by Kim et al. (2021), where 31.4% of the 79 banks surveyed said that bank staff's lack of familiarity with products was a barrier to approving trade finance requests. We extended this existing barrier with a specific lack of knowledge regarding the functioning of CRMs.

5.2.7 | Reputation and Relationship

If a bank has no credit available for an issuing bank, the total amount of the LC could be sold in the bank-to-bank market. However, most bankers actively working with this mitigant preferred not to use it when they needed 100% cover, highlighting reputation and relationship drivers. One participant noted, 'For reputational risk, we must keep 10% of any transaction we sell. We don't like the market to see us we are selling 100% of our risk. We don't want the market to think we are selling assets we are uncomfortable with. That is why we keep a 10%, to avoid reputational issues. We can only sell an asset the bank feels comfortable with, but we sell because we don't have more credit availability' (B22). Another bank told us that they do not even sell a piece, If we have a limit suspended because we think it is not a good risk, or we don't have it, then we don't even sell it. It's a relationship issue (B6).

5.3 | Individual Constraints

5.3.1 | Compensation Policies

Participants highlighted the significance of bonuses, often constituting 50%–75% of their base salary. While some banks employ formulas for bonus calculations based on annual objectives, not all products are equally weighted. Bankers reported varying recognition of CRMs, with some banks requiring the sharing of transaction income with another department or providing no recognition, depending on the mitigant used. This factor influences the selection of mitigants and the acceptance or rejection of transactions.

This is a recurring comment of frustration: 'It's always a political issue depending on who gets the recognition. This has to be solved. There is no point in using one instrument if you don't get the recognition!' (B7). Furthermore, one banker mentioned, 'My first option is the bank-to-bank market. We have a department in charge of the relationship with insurance companies, and if I don't have investors in the bank-to-bank market, I should contact them to look for an insurance quote. If I close the transaction with insurance, I need to give this department a significant percentage of the profit of the confirmation fee. Why do I have to share my profit with them if they use a broker that I could use as well if I were allowed to? In those cases, I prefer to decline the deal unless it is a huge one and focus on other more profitable deals for my department' (B31). The compensation package structure is vital for addressing agency problems and enhancing firm performance (Sakawa et al. 2012); we draw attention to compensation policies in trade finance and the utilisation of CRMs.

5.3.2 | Banker Knowledge

Trade finance distribution requires a knowledge that not all banks possess. Surprisingly, many participants, including large

global banks, were unaware that ECAs offer mitigants for confirming letters of credit. They mistakenly believed ECA products were only for medium- and long-term export transactions or projects. One participant admitted, 'I didn't know ECAs offer products for short trade finance. We are missing that. We are not doing anything with ECAs, maybe due to a lack of knowledge' (B22). While ADB surveys indicated banks rejecting trade finance transactions due to staff's lack of knowledge about processing a LC (Auboin and DiCaprio 2017), our findings highlight rejections stemming from insufficient knowledge about CRMs.

Bankers transitioning between banks or insurance companies bring their knowledge along. Previous positions significantly shape bankers' choices in using CRMs. A recurring issue is management's limited understanding of insurance, but when a banker with prior insurance market experience is involved, trust is established, and insurance use is allowed. Braun and Fischer (2018) showed that experience and expertise in insurance increase the demand for political risk insurance. As expressed by one banker, 'We can't do insurance. The use of insurance depends a lot on the specific people in charge of the business. If they have experience working with insurance in previous jobs, they are reliable within the bank and push internally to do it' (B14). Another participant noted, 'Insurance is a business people think they understand, but they don't. We began to do insurance when I joined the bank as I had been a broker before' (B27). Human capital's crucial role in banks' success is well-documented (Milosevic et al. 2021), with a banker's education and age significantly influencing a bank's performance (Kauko 2009). This extends to the trade finance area within a bank, affecting the utilisation of CRMs and shaping transaction approvals.

5.3.3 | Banker Personality Traits

Insurance firms cover letters of credit, and banks can contact them directly or use brokers for quotes. This allows trade finance newcomers to obtain insurance quotes without prior contacts. However, in the bank-to-bank market, lacking brokers, bankers must identify banks handling various risks with the right contacts for each deal. This difference in how providers are contacted affects the selection of mitigants. Bankers with contacts in the bank market and job security concerns prefer the bank-to-bank market. As one of them told us, 'I mostly use MRPAs on the secondary market as my contacts are good, and I don't want to use other CRMs, which could make me redundant in the future. My contacts are my best asset; anyone can use a broker' (B19).

Some interviewees admitted that the willingness to work, whether high or low, could influence credit risk mitigation selection. One interviewee confessed, 'Sometimes we don't explore mitigants just because we are busy or lazy, especially if there are other deals on the table that are easier to do' (B2). Some bankers dislike the bank-to-bank market and prefer working with a broker to obtain insurance because the broker handles the search and insurance policy negotiation. 'We have an excellent insurance program with a broker. That's our first option. I don't have time to explore other options' (B16). Some banks reported challenges when starting with a new mitigant provider, with approval processes ranging from six to eighteen months to become an approved confirming bank by some MDBs. One banker questioned the effort, saying, 'I avoid MDBs. When inquiring about the approval process, the IFC mentioned a six-month timeframe, and the African Development Bank indicated eighteen months. So, why bother?' (B13). Managers' objectives are not always fully aligned with profit maximisation (Francis et al. 2015), and they sometimes want to enjoy a quiet life (Bertrand and Mullainathan 2003). While trade finance managers prioritise bank and client profits, they also consider their effort levels.

Moreover, there was a recurrent comment about the low interest in seeking mitigants for small transactions, as it is the same work, but the profit is limited. 'I prefer to do big transactions, and I don't care about the small deals from SMEs. If we don't have a line, we just decline (B5)'. This is worrying, as the trade finance gap is mainly from SMEs and emerging markets.

6 | Conclusions

This study sheds light on critical challenges banks face in meeting trade finance demand, especially in high-risk emerging markets. Our findings reveal that despite the availability of mitigant products provided by ECA, private insurers, MDBs and the bank-to-bank market, banks do not always employ these tools effectively. This underutilisation leads to the rejection of letters of credit confirmations, impeding international trade and, therefore, exacerbating the trade finance gap, which poses a significant global risk. While existing literature primarily emphasises regulatory drivers (Auboin and DiCaprio 2017; Cavoli et al. 2022; DiCaprio and Yao 2017; Kim et al. 2021), our study reveals that the underuse of CRMs results from a combination of factors operating at different levels within banking institutions, which we have categorised into three groups: regulatory, organisational, and individual constraints.

First, our research reinforces the importance of regulatory constraints in trade finance, offering a more detailed explanation than prior studies. We confirm that KYC requirements hinder banks from increasing transaction volumes even when full mitigation could be applied. Another critical point identified is the inconsistency in regulations and criteria among banks regarding the accounting of CRMs, particularly concerning capital and credit relief, which creates hesitancy in their application. Second, we demonstrate that organisational constraints also significantly hinder the use of CRMs. Key barriers include limited departmental procedures, a lack of standardisation in CRM application, concerns over profitability due to the high costs associated with CRMs and outdated IT systems. In addition, business strategies that deprioritise trade finance, coupled with insufficient management support—often stemming from limited knowledge about CRMs—further weaken the decision-making process related to their utilisation. Third, although the banking sector is highly regulated, bankers' decisions are influenced by personal constraints that may not align with stakeholders' objectives. Our research identifies significant knowledge gaps regarding available CRMs, along with the influence of personal biases, personal risk aversion and compensation structures that discourage bankers from proactively using risk mitigation tools.

We also found that networking skills, motivation and job security concerns significantly influence bankers' decisions to utilise CRMs.

This paper contributes to the empirical trade finance literature, offering new insights into the utilisation of CRMs by financial institutions. It answers the academic call for research based on bank-specific information (Auboin 2015, 2021; DiCaprio and Yao 2017), addressing a longstanding limitation in the field due to the scarcity of accessible bank data. We bridge this data gap and enrich the existing literature by conducting 38 in-depth interviews with trade finance bankers worldwide.

Our findings suggest that more effective management of CRMs could enable banks to approve more transactions, thereby helping to reduce the trade finance gap. This research holds significant policy implications for various stakeholders involved in credit risk mitigation, including banks, regulators, ECAs, insurance companies and MDBs.

To address regulatory constraints, it would be necessary to harmonise global banking regulations to provide capital and credit relief benefits for all CRMs across jurisdictions. This would reduce regulatory inconsistencies and encourage banks to apply CRMs more consistently. Additionally, creating centralised KYC repositories would help lower compliance costs and simplify complex due diligence processes, facilitating quicker and more efficient transaction approvals.

In response to the organisational barriers identified in this study, banks should develop standardised procedures for assessing and applying CRMs. Investing in robust IT infrastructure would further enhance the efficiency of CRM registration, tracking, and monitoring, addressing technological limitations that currently hinder CRM utilisation. Another key measure to promote the effective use of CRMs is fostering stronger public-public partnerships between banks, ECAs, insurance companies, MDBs and regulatory bodies. Creating a comprehensive international dataset for trade finance and CRMs would enable banks that currently underutilise CRMs—or are unfamiliar with certain types—to understand their benefits better. This data-driven approach would equip banks with valuable tools to promote the internal adoption of CRMs.

Addressing individual constraints, particularly the lack of knowledge among bankers and management, is also crucial. This can be improved through coordinated training programmes led by policymakers and industry associations, aimed at enhancing CRM-related knowledge and skills. Additionally, banks should implement internal accounting systems to ensure that the financial benefits derived from CRM-backed transactions are accurately reflected in the performance metrics of the trade finance department. This approach helps maintain departmental incentives and encourages the proactive adoption of CRMs.

This study has limitations, indicating the need for further research. Firstly, the focus on letters of credit may not capture drivers relevant to other trade finance instruments like bonds. Secondly, evolving digitisation in trade finance may introduce new factors in selecting CRMs. Thirdly, data were collected only from financial institutions, overlooking the perspectives of mitigant providers such as ECAs, MDBs and private insurers. Future research should explore these perspectives to gain a comprehensive understanding of the credit risk mitigation market, which could contribute to reducing the trade finance gap and supporting global trade growth.

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Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

Participants of this study did not give written consent for their data to be shared.

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Supporting Information

Additional supporting information can be found online in the Supporting Information section.