



The Global Trade Finance Gap and Small-Firm Export Participation: Mechanisms, Evidence, and Policy Instruments

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Abstract

Small and medium-sized enterprises (SMEs) account for the majority of firms in every economy but a disproportionately small share of exports. A growing body of research attributes part of this discrepancy to financial frictions: the working capital and risk-mitigation needs of cross-border transactions are systematically harder for small firms to satisfy. This article examines the global trade finance gap, the value of requested trade finance that financial institutions decline to provide, as a lens on the relationship between finance and export participation. It combines a synthesis of theoretical models of payment-term choice and credit-constrained exporting with a review of empirical studies and institutional survey evidence. Three findings emerge. First, the structure of international payment terms allocates working-capital burdens and counterparty risk in ways that bear most heavily on small exporters in economies with weak contract enforcement, a result illustrated here with a numerical simulation of the canonical payment-term model. Second, causal evidence from matched firm–bank data confirms that reductions in credit supply reduce both entry into exporting and export volumes, with larger effects for smaller firms. Third, survey estimates place the global gap at between 1.5 and 2.5 trillion U.S. dollars over the past decade, concentrated among SMEs in developing regions, and identify compliance costs and correspondent-banking retreat as leading causes. The article evaluates four families of policy instruments, guarantee programs, supply-chain finance, digital documentation, and regulatory calibration, and proposes an agenda for evaluating their effects.

Keywords: - Trade Finance Gap, Small and Medium-Sized Enterprises, Credit Constraints, Letters of Credit, Supply-Chain Finance, Export Credit Agencies, Correspondent Banking

I. INTRODUCTION

Firms that trade across borders must finance a longer and riskier transaction cycle than firms that sell domestically. Goods typically leave the exporter's premises weeks before they are delivered and months before they are paid for; in the interval, someone must fund inventory in transit and bear the risk that the counterparty fails to perform. Large firms with deep balance sheets, established banking relationships, and diversified customer bases absorb these burdens with relative ease. Small firms frequently cannot. The result, documented in surveys of banks and firms by the Asian Development Bank (ADB) and the World Trade Organization (WTO), is a persistent global trade finance gap, the value of trade finance applications that are rejected, which has ranged between 1.5 and 2.5 trillion U.S. dollars in recent estimates and falls overwhelmingly on small and medium-sized enterprises (SMEs) in emerging and developing economies (Asian Development Bank [ADB], 2023; Kim et al., 2021).

The gap matters because export participation is associated with higher productivity, employment, and wages, and because policy in many developing economies explicitly targets SME internationalization as a development strategy. If financial frictions rather than productivity differences prevent otherwise capable firms from exporting, then financial policy is a first-order determinant of trade outcomes. This proposition has strong theoretical support in the heterogeneous-firm literature (Manova, 2013) and growing empirical support from studies that exploit exogenous variation in bank credit supply (Amiti & Weinstein, 2011; Paravisini et al., 2015). Yet the link between the academic literature and the institutional measurement of the gap remains underdeveloped, and the effectiveness of the policy instruments deployed to close it is only partially evaluated.

This article addresses that link. It has three aims: to explain, using theory, why the burden of trade finance frictions falls disproportionately on small firms in institutionally weak environments; to assess the empirical evidence on the causal effect of finance on SME export participation; and to evaluate the policy instruments available to narrow the gap. Section 2 sets out the method. Section 3 presents the theoretical mechanisms, including a numerical illustration of payment-term choice. Section 4 reviews the empirical evidence and summarizes the principal studies in tabular form. Section 5 documents the measured gap and its causes. Section 6 evaluates policy instruments, and Section 7 concludes with limitations and a research agenda.

II. METHOD

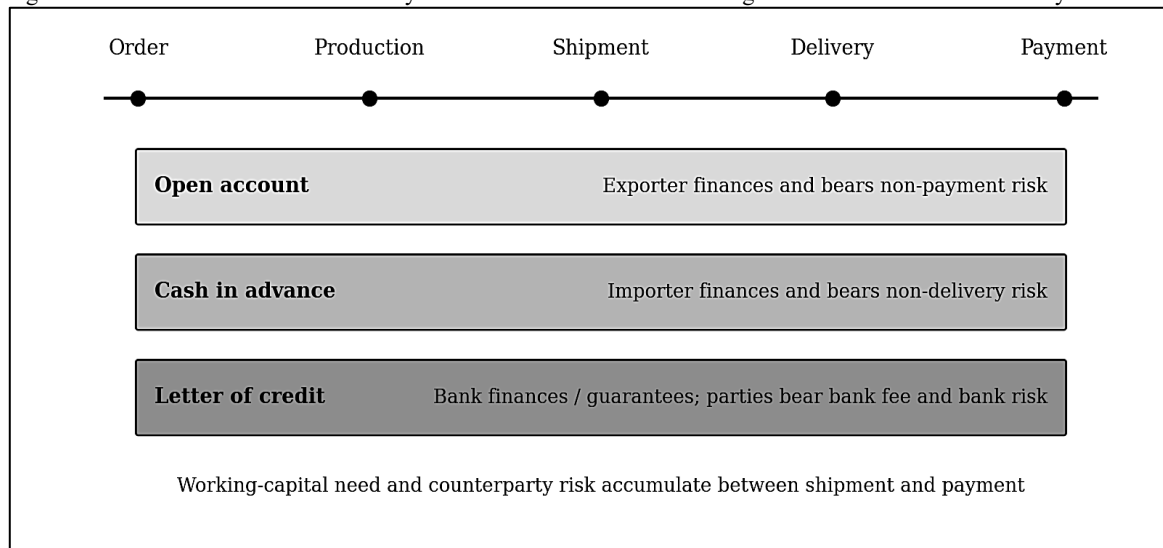
The article is a narrative review supplemented by descriptive analysis of published survey data and a stylized numerical simulation. Peer-reviewed studies were selected on the basis of their contribution to identifying a causal relationship between financial conditions and firm-level export outcomes, with priority given to studies that use matched firm–bank or transaction-level data. Institutional evidence was drawn from the ADB's Trade Finance Gaps, Growth, and Jobs Survey series, the WTO, and the Bank for International Settlements. The survey estimates reported in Section 5 are taken directly from the published briefs and are not re-estimated; because survey methodology and respondent samples have evolved across waves, year-to-year comparisons should be interpreted as indicative. The simulation in Section 3 is not an estimate; it is an illustration of the qualitative predictions of the payment-term model of Schmidt-Eisenlohr (2013) under an arbitrary parameterization and is intended only to make the model's logic visible.

III. THEORETICAL MECHANISMS

3.1. The Transaction Cycle and the Allocation of Risk

Figure 1 depicts the structure of a typical international transaction and the three principal ways in which it can be financed. Under open account, the exporter ships first and is paid later, thereby financing the transaction and bearing the risk that the importer does not pay. Under cash in advance, the importer pays first, financing the transaction and bearing the risk that the exporter does not deliver. Under a letter of credit, the importer's bank undertakes to pay upon presentation of conforming documents, substituting the bank's credit for the importer's and, in effect, selling insurance against non-payment for a fee. Documentary collections and bank guarantees occupy intermediate positions. Which term prevails is not arbitrary: it reflects the relative cost of finance in the two countries and the relative quality of contract enforcement (Schmidt-Eisenlohr, 2013).

Figure 1: The International Transaction Cycle and the Allocation of Financing and Risk Under Alternative Payment Terms



Note. Author's schematic based on Schmidt-Eisenlohr (2013) and Antràs and Foley (2015). Transaction durations are indicative.

Table 1 summarizes the properties of each instrument. Two features are salient for small firms. First, open account, the dominant term in world trade, requires the exporter to fund receivables, which is precisely the capacity small firms lack; Antràs and Foley (2015) show that exporters extend open-account terms mainly to established customers, so that a new or small exporter is frequently asked to accept cash-in-advance terms that shift the financing burden to an importer who may in turn be unwilling to bear it. Second, letters of credit carry fixed costs of documentation, compliance, and bank fees that are largely invariant to transaction size, so that the effective cost per dollar traded is highest for small shipments (Committee on the Global Financial System [CGFS], 2014).

Table 1. Principal Trade Finance Instruments and Their Allocation of Financing and Risk

Instrument	Who finances	Who bears risk	Cost structure	Typical use
Open account	Exporter	Exporter (non-payment)	Exporter's cost of capital	Established relationships; strong importer-country enforcement
Cash in advance	Importer	Importer (non delivery)	Importer's cost of capital	New relationships; strong exporter-country enforcement

Documentary collection	Exporter	Exporter (partly)	Modest bank fees	Intermediate risk; document control without guarantee
Letter of credit	Bank / importer	Bank (against fee); parties bear bank risk	Fixed fees, documentation, compliance	Weak enforcement on both sides; new or distant counterparties
Supply-chain finance	Anchor buyer's bank	Anchor buyer	Buyer's credit spread	Suppliers embedded in large-buyer value chains

Note. Compiled by the author from Schmidt-Eisenlohr (2013), Antràs and Foley (2015), and Committee on the Global Financial System (2014).

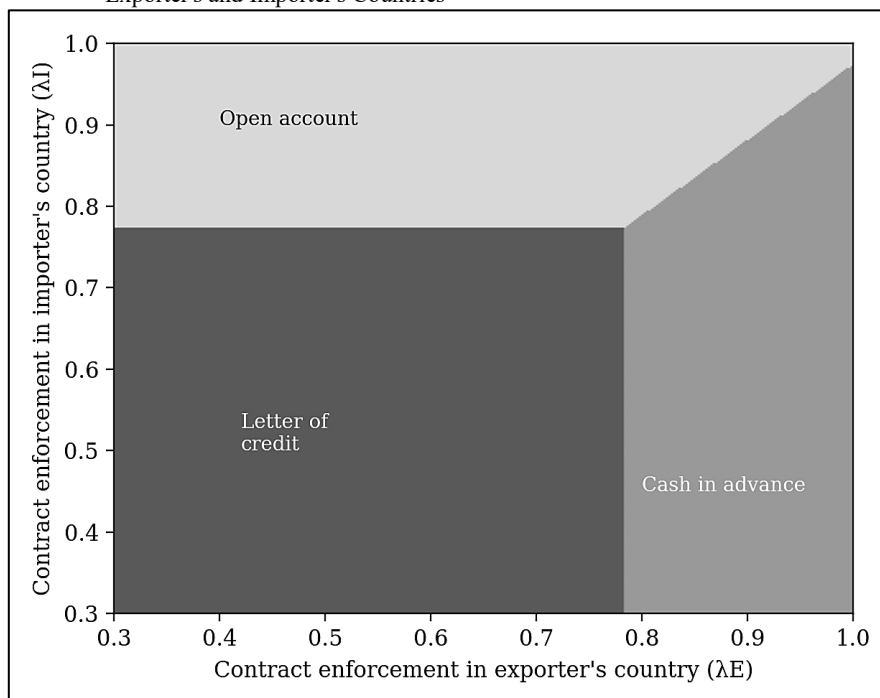
3.2. Credit Constraints and the Export Decision

Manova (2013) embeds financial frictions in the Melitz (2003) model of heterogeneous firms. Firms must finance part of the fixed cost of entering export markets and part of variable production costs externally, but lenders limit credit because contracts are imperfectly enforced. Two consequences follow. The productivity threshold required to export rises above the frictionless level, excluding some firms that would export if fully financed; and firms that do export sell less than they otherwise would. Both effects are stronger in sectors that depend heavily on external finance and hold few tangible assets, and in countries with weaker financial development. Since smaller firms are, on average, less productive and less collateralized, the model implies that credit constraints reduce SME export participation both directly and through the sectoral composition of trade. Feenstra et al. (2014) add an informational friction, showing that lenders who cannot observe exporter quality ration export loans more severely than domestic loans because the longer payment lag makes default costlier to detect.

3.3. A Numerical Illustration of Payment-Term Choice

To make the enforcement mechanism concrete, Figure 2 reports the payment term that maximizes the exporter's expected profit in a stylized version of the Schmidt-Eisenlohr (2013) model. The exporter produces at cost C , sells at price R , and can borrow at rate r ; λE and λI denote the probability that a contract is enforced in the exporter's and importer's country respectively. Under open account the exporter is paid with probability λI after pre-financing production; under cash in advance the importer pays up front but discounts the price for the risk of non-delivery, $1 - \lambda E$, and for its own financing cost; under a letter of credit a bank guarantees payment for a fee f . The parameter values ($R = 1$, $C = 0.6$, $r = 0.08$, $f = 0.25$) are chosen for visual clarity only.

Figure 2: Profit-Maximizing Payment Term as a Function of Contract Enforcement in the Exporter's and Importer's Countries



Note. Author's numerical illustration of a stylized version of the Schmidt-Eisenlohr (2013) model with $R = 1$, $C = 0.6$, $r = 0.08$, and $f = 0.25$. Shaded regions indicate the term yielding the highest expected exporter profit. The figure is illustrative and not an empirical estimate.

The figure reproduces the model's central qualitative result. When enforcement is strong in the importer's country, open account dominates, because the exporter's non-payment risk is low. When enforcement is strong in the exporter's country but weak in the importer's, cash in advance is preferred, because the importer is willing to pay up front. When enforcement is weak in both countries, neither party can credibly commit and the bank-intermediated letter of credit becomes the best available option despite its fee. The policy relevance for small firms is immediate: exporters in economies with weak enforcement selling to importers in economies with weak enforcement are pushed toward the most expensive instrument, whose fixed costs bear

most heavily on small transactions. The trade finance gap is therefore predicted to be largest precisely where it is observed, among small exporters in developing regions trading with other developing regions.

IV. EMPIRICAL EVIDENCE

The empirical literature on finance and exporting has advanced from cross-sectional correlations to credible causal designs. Early studies documented that firms reporting credit rationing or holding weaker credit scores are less likely to export and export less when they do (Minetti & Zhu, 2011; Muûls, 2015). The interpretive difficulty is reverse causality: exporting may improve creditworthiness. The most persuasive designs exploit shocks to the supply of bank credit that are plausibly unrelated to the firm's own prospects. Amiti and Weinstein (2011) match Japanese exporters to their reference banks and show that shocks to bank health reduced client exports during Japan's banking crises. Paravisini et al. (2015) exploit Peruvian banks' differential reliance on foreign funding during the 2008 reversal in capital flows and find that credit contractions reduced export volumes and destination survival. Chor and Manova (2012) document that during the global financial crisis exports to the United States fell more from countries with tighter interbank conditions, particularly in financially dependent sectors.

Recent work isolates the bank-instrument channel. Niepmann and Schmidt-Eisenlohr (2017) show that contractions in U.S. banks' supply of letters of credit reduce U.S. exports to affected destinations, with larger effects for smaller markets and during periods of stress. Crozet et al. (2022) find that Turkish trade intermediated by letters of credit contracted more sharply than open-account trade during the crisis when issuing banks came under pressure, so that the instrument designed to mitigate counterparty risk transmitted bank risk instead. Demir and Javorcik (2018) show that Turkish exporters facing intensified competition responded by extending more generous open-account terms, absorbing financing burdens themselves. Table 2 summarizes these studies.

Table 2. Summary of Principal Causal Studies on Credit Supply and Firm-Level Exports

Study	Country	Data	Identification	Main finding
Amiti & Weinstein (2011)	Japan	Firm–bank matched, 1990–2010	Bank health shocks	Bank shocks reduce client exports; explain about one-third of export declines in crises
Chor & Manova (2012)	Multi-country	Monthly U.S. imports by sector	Interbank rate variation	Tighter credit reduces exports, most in externally dependent sectors
Minetti & Zhu (2011)	Italy	Firm survey	Reported credit rationing	Rationed firms less likely to export; smaller export volumes
Feenstra et al. (2014)	China	Firm-level customs and balance-sheet	Structural model	Exporters more credit-constrained than domestic sellers
Muûls (2015)	Belgium	Firm–credit-score matched	Credit score variation	Better-rated firms export and import more products and destinations
Paravisini et al. (2015)	Peru	Firm–bank–customs matched	Bank exposure to foreign funding	Credit contraction lowers intensive margin and destination survival
Niepmann & Schmidt-Eisenlohr (2017)	United States	Bank letter-of-credit data	Bank supply shocks	LC supply reductions lower exports; larger for small destinations
Demir & Javorcik (2018)	Turkey	Transaction-level customs	Competition shock	Exporters extend more trade credit under competitive pressure
Crozet et al. (2022)	Turkey	Transaction-level customs	Crisis-period bank stress	LC-intermediated trade contracted more during the crisis

Note. LC = letter of credit. Findings are paraphrased from the cited sources.

Three patterns in Table 2 deserve emphasis. First, the causal effect of credit supply on exports is consistently negative and statistically robust across countries and identification strategies. Second, effects are heterogeneous, with smaller firms, financially dependent sectors, and bank-intermediated transactions most affected, which is what the theory of Section 3 predicts. Third, the aggregate contribution of finance to trade fluctuations is modest in normal times and during demand-driven downturns but becomes large when the banking system itself is the source of the shock. The evidence therefore supports a targeted rather than a general characterization of the finance–trade link: finance is a binding constraint for identifiable groups of firms rather than for trade as a whole.

V. THE MEASURED GAP AND ITS CAUSES

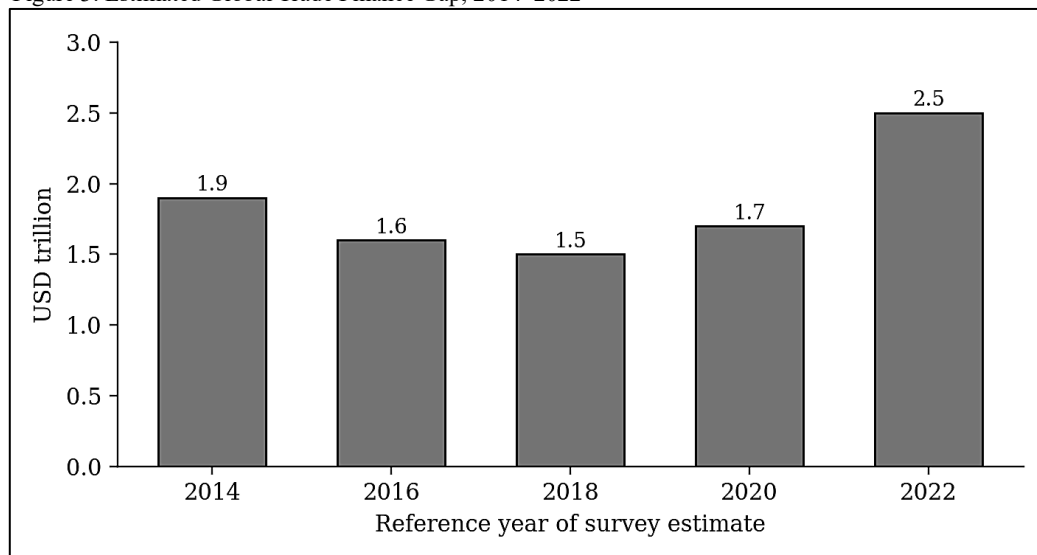
Since 2013 the ADB has surveyed banks and firms to estimate the value of trade finance requested but not obtained. Table 3 and Figure 3 report the headline estimates. The gap was estimated at 1.9 trillion U.S. dollars in 2014, declined to 1.5 trillion by 2018 as post-crisis conditions normalized, rose to 1.7 trillion in 2020 during the pandemic, and reached 2.5 trillion in 2022 amid rising interest rates, geopolitical uncertainty, and tighter compliance requirements (ADB, 2023; Kim et al., 2021). Relative to world merchandise trade, the gap has fluctuated around one-tenth of the total.

Table 3. Estimates of the Global Trade Finance Gap by Survey Wave

Reference year	Estimated gap (USD trillion)	Survey publication	Context
2014	1.9	ADB (2015)	Post-crisis regulatory tightening
2016	1.6	ADB (2017)	Commodity price decline; correspondent-bank retreat
2018	1.5	ADB (2019)	Stable global growth
2020	1.7	Kim et al. (2021)	COVID-19 pandemic
2022	2.5	ADB (2023)	Rising interest rates; geopolitical uncertainty

Note. Values are headline estimates as reported in each survey brief. Methodology and respondent samples vary across waves; comparisons over time are indicative.

Figure 3: Estimated Global Trade Finance Gap, 2014–2022



Note. Data from Asian Development Bank (2015, 2017, 2019, 2023) and Kim et al. (2021), as reported in Table 3.

Three causes recur across survey waves. First, know-your-customer and anti-money-laundering compliance imposes fixed costs per transaction and per counterparty that banks recover by declining small or unfamiliar applicants; respondent banks consistently cite compliance as the leading reason for rejection (Kim et al., 2021). Second, global banks have withdrawn from correspondent relationships in jurisdictions perceived as high-risk, reducing the capacity of local banks to confirm letters of credit and thereby removing the instrument that, as Figure 2 shows, is most needed where enforcement is weakest. Third, small firms lack the collateral and financial documentation that banks require, and the returns to serving them do not cover the fixed costs of assessment. The gap is thus an equilibrium outcome of the interaction between regulatory design, bank business models, and firm characteristics, rather than a temporary shortage of liquidity.

The distribution of the gap is as important as its size. Surveys report that SMEs account for a large share of rejected applications despite representing a small share of requested value, and that women-owned firms experience higher rejection rates than the average (Kim et al., 2021). Regionally, rejection rates are highest in developing Asia and Africa, consistent with the theoretical prediction that weak enforcement in both trading partners pushes firms toward instruments that are costly or unavailable.

VI. POLICY INSTRUMENTS

Four families of policy instrument address the gap. Table 4 summarizes their mechanisms, the friction they target, and the state of evidence on their effectiveness.

Table 4. Policy Instruments Addressing the Trade Finance Gap

Instrument	Mechanism	Friction targeted	Margin affected	State of evidence
Multilateral and ECA guarantees	Public balance sheet confirms or insures bank exposures	Correspondent-banking withdrawal; country risk	Bank capacity in high-risk markets	Program volumes documented; firm-level entry effects rarely evaluated
Supply-chain finance	Anchor buyer's credit finances supplier receivables	Supplier working capital	Intensive margin of existing suppliers	Firm-level studies of trade credit; limited program evaluation

Digital trade documents	Legal recognition of electronic transferable records	Fixed documentation and processing costs	Viability of bank instruments for small tickets	Early adoption; no causal evaluation yet
Regulatory calibration	Proportionate capital and compliance rules for short-tenor trade assets	Compliance cost per transaction	Bank willingness to serve small applicants	Low default rates documented; effect on rejections untested

Note. ECA = export credit agency. Compiled by the author from Auboin (2009), Committee on the Global Financial System (2014), Ganne (2018), and Kim et al. (2021).

Guarantee programs operated by multilateral development banks and export credit agencies substitute a public balance sheet for the private confirming bank, directly addressing the correspondent-banking withdrawal identified above. Their expansion after 2008 is well documented (Auboin, 2009), and default rates on trade finance portfolios have historically been very low (CGFS, 2014), suggesting that the public cost of such guarantees is small. However, rigorous evaluation of their effect on SME export entry, as distinct from transaction volumes at participating banks, is scarce.

Supply-chain finance, in which a large buyer's creditworthiness is used to finance its suppliers' receivables, transfers the financing burden from the small supplier to the anchor firm. Klapper et al. (2012) show that trade credit terms depend on the relative bargaining power and creditworthiness of buyer and supplier, and supply-chain finance platforms formalize this mechanism at scale. Its reach is limited to suppliers already embedded in the value chains of large buyers, so it addresses the intensive rather than the extensive margin of the gap.

Digitalization of trade documents reduces the fixed cost of letters of credit and documentary collections, which Section 3 identified as the principal reason bank instruments are uneconomic for small transactions. Ganne (2018) argues that the binding constraint is legal recognition of electronic transferable records, and the adoption of the UNCITRAL Model Law on Electronic Transferable Records (United Nations Commission on International Trade Law, 2017) by an increasing number of jurisdictions is beginning to relax it. Finally, regulatory calibration, including proportionate application of capital and compliance rules to short-tenor, self-liquidating trade instruments, targets the compliance cost channel directly, although it must be weighed against the integrity objectives those rules serve.

VII. LIMITATIONS, RESEARCH AGENDA, AND CONCLUSION

The analysis is subject to several limitations. Survey-based estimates of the gap rely on bank self-reporting and changing samples, and the concept of rejected applications omits firms that do not apply because they anticipate rejection; the true unmet demand may therefore be larger. The causal literature summarized in Table 2 is concentrated in a small number of middle- and high-income countries with rich administrative data, and its findings may not transfer to the low-income economies where the gap is largest. The simulation in Figure 2 illustrates a mechanism but does not estimate its magnitude. And the policy evaluation in Table 4 reflects the paucity of experimental or quasi-experimental studies of trade finance interventions, which remains the most significant hole in the literature.

Three research directions follow. First, the staggered legal recognition of electronic trade documents across jurisdictions creates quasi-experimental variation that can identify the effect of documentation costs on instrument choice and small-firm participation. Second, matched data on guarantee-program participation and firm-level export outcomes would permit evaluation of the extensive-margin effects of public guarantees. Third, linking survey measures of rejection to firm-level administrative data would allow the gap to be decomposed into demand-side and supply-side components and would clarify how much of it reflects genuinely creditworthy but unserved firms.

In sum, theory predicts and evidence confirms that the financial frictions inherent in international transactions bind most tightly on small firms in institutionally weak environments, and the measured trade finance gap is the aggregate expression of that prediction. Closing it requires instruments that reduce the fixed costs of bank intermediation, extend guarantee capacity where correspondent banking has retreated, and calibrate regulation to the low risk profile of trade finance. The economic case for doing so rests on the substantial body of research showing that access to finance is a determinant of who participates in international trade.

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