Report

Trade Finance *in* Central America *and* Mexico

A study of Guatemala, Honduras, and Mexico

APRIL 2025

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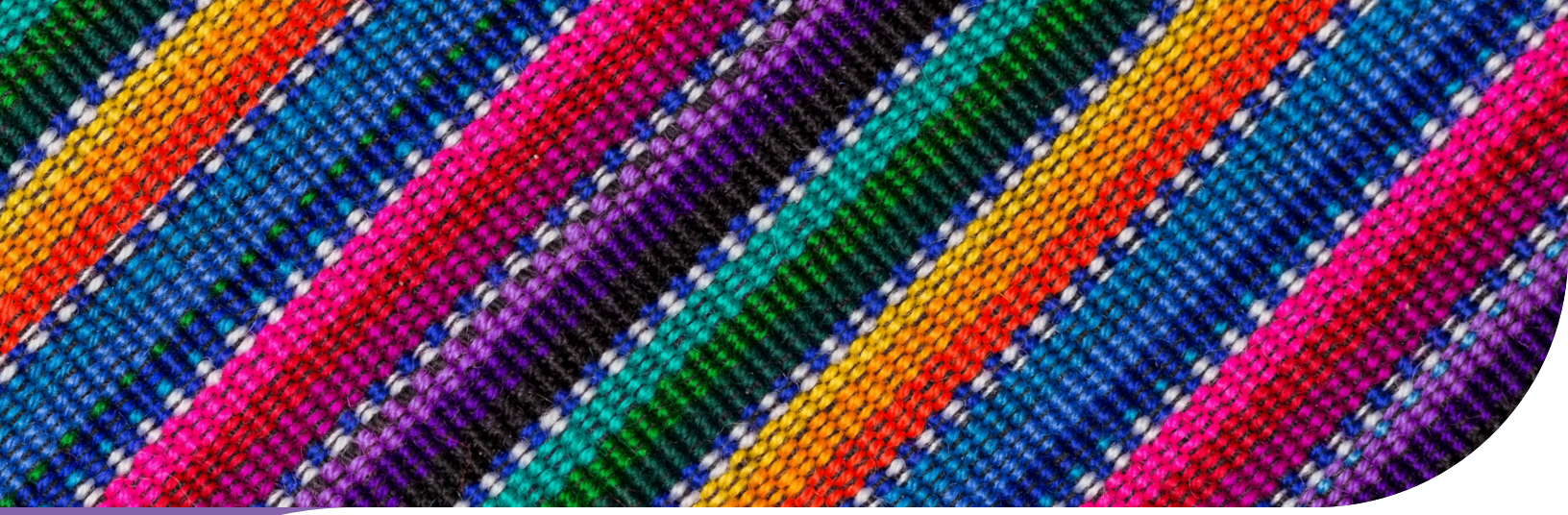

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Foreword

The expansion of firms' access to export and import markets depends on reliable, adequate, and cost-effective sources of trade finance. These help to fill the time gaps between production, shipment, and payment.

Trade finance is routinely supplied to exporters and importers by banks and other financial intermediaries, mitigating the financial and payment risks involved in cross-border trade. Whereas developed economies can often rely on large and advanced economic sectors mobilizing sophisticated trade finance instruments such as supply chain finance, significant shortages exist in many emerging and low-income economies. These shortages can have many reasons—both international (inflation, availability of correspondent banking relationships, country risk) and local (level of development and expertise of the financial sector, cost, access to finance by local firms).

To better understand the trade finance ecosystem in developing countries, the constraints to trade finance, and gaps in provision, the International Finance Corporation (IFC) and the World Trade Organization (WTO) pledged in November 2021 to enhance their cooperation in this area. As part of this effort, they engaged in a series of surveys aimed at examining the specific obstacles faced by lenders and borrowers in low-income regions. The first study, conducted in 2022, analyzed the trade finance markets of the four largest economies of the Economic Community of West African States (Côte d'Ivoire, Ghana, Nigeria, and Senegal, referred to as the ECOWAS-4). In 2023, the second study examined the trade finance markets of Cambodia, the Lao People's Democratic Republic, and Viet Nam (the Mekong-3).

This third study shifts the focus to three upper-middle income economies in Latin America—Guatemala, Honduras, and Mexico—collectively denoted as the CAM-3, a reference to their belonging to the Central America-Mexico trade agreement. Building on the trade profiles of the three countries, the study examines the characteristics of trade finance in these fast-growing markets. It focuses on the share of trade supported by trade finance, its costs, and the

potential benefits if trade finance obstacles were reduced. Collectively, these three regional studies offer insights into which solutions could be promoted across different levels of development, both locally and internationally, for trade finance to be a driver of greater competitiveness and market access for a wide range of firms.

IFC and the WTO are committed to further fostering trade growth and economic development outcomes, drawing on our knowledge and track record of mobilizing capital. We are thankful to the joint IFC-WTO team that produced this report and look forward to the findings and recommendations that will inform debates and decision-making across various stakeholders.

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Executive Summary

International trade has played a central role in Latin America's economic development and poverty reduction. For businesses, access to trade finance is essential to capitalize on trade opportunities by managing risks and securing working capital. This report focuses on three upper-middle income economies in Latin America: Guatemala, Honduras, and Mexico. These three countries have diverse economic profiles and have experienced robust trade growth over the past decade. Drawing on each country's long-term trends and trade profiles, the report examines the state of bank-intermediated trade finance and quantifies the potential benefits to be reaped from improving access to affordable trade finance.

The evolving trade patterns point to rising demand for trade finance. Guatemala, Honduras, and Mexico have each posted average annual trade growth of 4–5 percent in the past decade. Mexico has moved up the value chain, including as a major supplier to the United States (US) market, especially in motor vehicles and parts, electronics, machinery, and precision instruments. Guatemala and Honduras have expanded their volume of trade and diversified their import and export baskets, especially within Latin America, in light manufacturing and agriculture. Mexico's strong export links to the US, and a high share of capital and intermediate goods in total trade, point to significant potential demand for trade finance, particularly supply chain finance (SCF) to fill working capital needs. Rising economic and policy uncertainty may add to demand for bank-intermediation to mitigate risks. Although Guatemala and Honduras start from a lower base, with macroeconomic and financial sector weaknesses, their expanded export footprint in light manufacturing and food products and growing diversification into new markets are also expected to increase demand for trade finance.

However, an IFC survey of banks across the three countries reveals that bank-intermediated trade and supply chain finance (TSCF) remains underused. The share of merchandise trade covered by TSCF is relatively low: 8 percent in Mexico, 10 percent in Honduras, and 12 percent in Guatemala (based on a more limited sample). This compares to 21 percent for Viet Nam and 25 percent West Africa, the subjects of previous IFC-WTO trade finance studies. Open-account financing arrangements prevail for trade transactions, and bank intermediation consists mainly of trade loans. Their use of traditional trade finance instruments, such as letters of credit (LCs), is notably lower than in West Africa or in Southeast Asia's Mekong region.

These patterns align with the generally limited use of bank intermediation in the region. In Mexico, most trading firms do not rely on bank financing, with only a quarter receiving any type of loan, either short- or long-term, from Mexican banks. New trading firms are underrepresented in bank loan portfolios, and those that secure financing typically have had relationships with banks before engaging in international trade. The trade finance market in particular is concentrated both on the demand and the supply side: few banks serve a small number of large firms. Three-quarters of TSCF recorded in each country is supplied by the respective country's top three banks, and foreign bank subsidiaries tend to dominate the market.

In Mexico, the high share of related-party trade with the US helps explain the limited use of bank-intermediated TSCF. In 2023, around 56 percent of total trade and 65 percent of Mexico's exports to the US was between related parties, which frequently use open account arrangements. Foreign or domestically owned multinationals accounted for two-thirds of Mexico's trade in 2020, a share that has consistently exceeded all comparator countries over the last decade. Moreover, as import flows from China and exports to the US have expanded faster than bank lending for traders, many Mexican firms appear less reliant on local banks for finance.

Even within related-party trade, payment lags and mismatches can create working capital shortfalls, indicating potential for SCF solutions. Additional payment and transaction risks apply to trade between unrelated parties. Nevertheless, SCF accounts for just 17 percent of banks' total TSCF assets in Mexico, and even lower shares in Guatemala (4 percent) and Honduras (1 percent). Although Mexico's SCF market has benefited from regulatory, market, and digital innovations, it only supports about 1 percent of Mexico's international trade, pointing to significant potential for growth, notably for Mexican-owned firms operating in global value chains. Guatemala and Honduras, with a relatively lower share of US related-party trade and growth in textile and other light manufacturing exports, are also expected to see growing demand for SCF.

Banks in the three countries face varying constraints in meeting trade finance needs. In IFC's survey, Honduran banks report the most severe constraints, citing macroeconomic volatility, regulatory barriers, and limited liquidity. Uncertainty and liquidity shortages are particularly binding for smaller banks in the country. Guatemalan banks of all sizes similarly identify a shortage of low-cost funding, high internal risk ratings, and strict collateral requirements as constraints. For Mexican banks, limited institutional readiness hindering their ability to offer new trade finance products is the top concern, followed by correspondent bank processing delays. Correspondent banking relationships remain a bottleneck for smaller banks in all three countries, where high financing costs, tenor restrictions, and compliance requirements limit banks' ability to provide trade finance.

On the demand side, TSCF is often seen as prohibitively expensive even considering variation in pricing terms offered to traders. In Mexico, LC fees vary considerably, a reflection of the range of risks associated with diverse trade transactions

and clients in a large economy. Small trading firms in Mexico incur, unsurprisingly, higher and more variable interest rates on loans than other firms, while new traders exhibit considerably higher dispersion in rates, even compared to firms that do not participate in international trade. Interest rate spreads on trade loans over the policy rate are higher in Honduras and Guatemala than in Mexico—likely a reflection of supply-side constraints, such as banks' ability to assess risks and cost of funds.

Improving access to affordable TSCF stands to significantly boost trade flows, including by unserved traders. An analysis of survey data collected from banks and traders in the three countries, using the WTO Global Trade Model, suggests that doubling TSCF coverage and reducing financing costs (for loans, SCF, and LCs) to more advanced economies' benchmarks could raise imports by 5.7 percent in Guatemala, 7.4 percent in Honduras, and 6.7 percent in Mexico, and raise exports by 7.8 percent, 8.9 percent, and 7.4 percent, respectively. This corresponds to an increase in the annual volume of merchandise trade of $2.8 billion[1] in Guatemala, $2.3 billion in Honduras, and $85.1 billion in Mexico. Expanding bank-intermediated TSCF holds the greatest potential to enhance trade, followed by lowering financing costs of export and import loans and SCF, whereas reducing LC fees would play a more marginal role.

Projected increases in trade flows vary across sectors and trading partners. In Guatemala and Honduras, the largest export gains would come from textiles and leather to North America (Canada and the US). In Mexico, transport (including automotive) and electronic equipment and machinery, already Mexico's largest exports, would see the biggest increase. On the import side, Guatemala is projected to expand trade in chemicals and other goods from a variety of trading partners (Central America, East Asia, Europe, and North America). For Honduras, trade is projected to increase in textiles, apparel and leather, and other goods imported from Central and North America. In Mexico, imports of transport and other equipment and chemicals from North America, and to a lesser extent from East Asia and Europe, would lead the way.

Coordinated action by companies, financial institutions, national policymakers, and international organizations could help increase the uptake of trade and supply chain finance in the three countries. Measures with the highest potential include supporting the expansion of SCF markets in the region through harmonized regulations, reducing trade finance costs by better assessing risks, increasing access to financial products, and offering targeted capacity building.

Mexico's SCF market has already benefited from regulatory and digital innovations, as well as the presence of large foreign bank subsidiaries active in SCF. Further regulatory harmonization, combined with greater use of digital invoicing and warehouse receipts, would help grow the market. Starting from a lower base, SCF markets in Guatemala and Honduras would benefit from raising market awareness, strengthening the capacity of key stakeholders (banks, large buyers, investors), and promoting the development of common sector-level operating infrastructure.

1 All dollar amounts are US dollars unless otherwise indicated.

Revisiting pricing methodologies for trade finance products by incorporating instrument-specific risk assessments can help make trade finance more affordable across the three countries. This may require enhancing banks' capacity to competitively price TSCF, potentially including liquidity support, advisory support on regulatory compliance, setting up collective market intelligence and risk assessment mechanisms, and expanding correspondent banking relationships for second-tier banks. International organizations, including regional and multilateral development banks, could help in this respect.

Access to financial services for smaller and women-owned firms is crucial to expand coverage of trade by bank-intermediated TSCF. All stakeholders can help broaden the range of TSCF beneficiaries: banks may benefit from tailored training; governments can facilitate risk-sharing facilities among traders and financial institutions—for example, by proposing first-loss guarantees; and smaller traders can benefit from greater participation in industry associations that offer technical assistance and knowledge sharing.

A rendering of the Honduran flag on shipping containers. © by Everyonephoto Studio via Shutterstock

Photo: Aerial view of tankers in a port. © by Kalyakan via AdobeStock

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Trade Profile *of* Guatemala, Honduras, *and* Mexico

This chapter presents a synthesis of the selected aspects of trade profiles of the three countries—Guatemala, Honduras, and Mexico (the CAM-3)—each followed by a discussion of the expectations they generate for trade finance demand based on the literature. The chapter covers products that are intensely traded as well as the destination and origin countries involved; diversification trends; trading firm characteristics; trade costs as well as uncertainty and structural challenges as drivers of growing demand for trade finance. The chapter concludes with a case study of Mexico that sheds light on bank credit to trading firms, drawing from administrative records on the universe of loans matched with customs data.

KEY FINDINGS

- In Mexico, robust export growth, at 5 percent annually in recent years, deeper integration into global value chains—especially in high-value manufacturing sectors like automotive, electronics, and machinery where new products and destinations are added—suggest a greater role for trade finance in the future. Trade in intermediate and capital goods, accounting for 57 percent of total imports in 2022, tends to rely more on trade finance.
- Mexico's position as a major exporter to the United States (US), coupled with growing imports from China, amplify the potential demand for trade finance as companies require financing to manage distant cross-border transactions. The same holds true for supply chain solutions to bridge payment gaps that may be riskier and costlier between unaffiliated parties entering these routes. Increased regional value content requirements in the automotive industry, reinforced by the Mexican government's National Relocation Strategy to increase domestic content in strategic sectors, will require greater availability of such solutions.
- The prevalence of trade by large and multinational firms, however, often using own-financing arrangements that do not involve bank intermediation (e.g. open account, or trade credit), mutes expected demand for local bank-intermediated instruments, in Mexico.
- Honduras and Guatemala, at smaller market size, have been growing the volume of their imports, their global export footprint, and diversifying their trade partners, especially within Latin America. Selected sectors, such as light manufacturing in Guatemala, and food products in Honduras, show increased dynamism, which could boost demand for financial intermediation, including supply chain finance.
- In Honduras and Guatemala, high trade costs and more limited engagement in global value chains in comparison to Mexico and regional peers, reflecting a range of structural and development challenges, dampen the relative size of trade finance demand. Overall, critical structural constraints may need to be addressed along with financing solutions in order for these economies to reach their full potential.
- Rising economic uncertainty—globally, in the three countries examined in the report, and in their major trading partners—is making it increasingly hard for firms to predict trade policy. Adjustments to respond to policy developments, such as switching to new suppliers and reorientation of exports, are likely to grow recourse to bank intermediation.

1.1 Trade Dynamics

The profiles of the three countries examined in this report are quite diverse. Compared with Guatemala and Honduras, Mexico's economy is much larger (**Table 1.1**), is at a higher level of economic and financial development, and has a far higher volume of trade.

Guatemala, Honduras, and Mexico have each posted average annual trade growth of 4–6 percent in the past decade. While trade in machinery and transport equipment have solidified Mexico's position as a major player in global trade, Honduras' goods exports grew at 4.1 percent annually over the past decade, buoyed by growth in the dominant textile sector (**Table 1.2**). In Guatemala, goods exports grew at an average rate of 3.7 percent annually over the past decade, largely driven by increases in agricultural exports.[2] The three countries' differences in trade growth mirror the varying sizes and structures of the economies involved.

Trade finance needs depend on the structure of trade across destination and sourcing countries. Imports from, or exports to, more geographically distant markets generate greater demand for financial intermediation due to greater time-lags between shipment and delivery and associated risks of goods' damage or delay. The level of contract enforcement at destination may have the opposite effect: needs for guarantees against transaction risk tend to be lower. Other things equal, traders from Asia more frequently use bank-intermediated trade finance for their trade transactions (Niepmann and Schmidt-Eisenlohr 2017).

Over the past decade, the CAM-3's import and export structures have changed significantly, influenced by developments in the global geopolitical landscape. Between 2012 and 2022, the US share of Mexico's exports and imports remained relatively stable (**Figure 1.1**). In absolute volume terms, Mexican exports to the US grew by 32 percent, while imports surged by 67 percent over

TABLE 1.1

Gross Domestic Product and Trade in the CAM-3

	Guatemala	Honduras	Mexico
GDP (current $, billions) 2023	$104	$34	$1,790
GDP growth (%) 2012–2022	6.8%	5.4%	1.5%
Trade in goods and services (% of GDP) 2023	53%	104%	75%
Trade in goods and services growth (%) 2012–2022	5.7%	4.5%	4.9%

Source: World Bank National Accounts data; World Development Indicators; World Integrated Trade Solution (2024).
Note: Trade refers to the sum of exports and imports of goods and services.

2 In particular, vegetable exports rose from $2.8 billion to $4.3 billion during this period (Table 1.2)

TABLE 1.2

Exports of Top Five Sectors by Country

2010–2012 vs. 2020–2022

		Average 2010–2012			Average 2020–2022		
		Exports *$, millions*	**Export share**	**Competi-tiveness**	**Exports** *$, millions*	**Export share**	**Competi-tiveness**
MEXICO	Machinery and electrical	$125,902	36%	1.5	$184,995	35.7%	1.3
	Transport equipment	$67,123	19%	2.2	$124,701	24.1%	3
	Minerals	$53,976	15%	0.8	$36,467	7%	0.5
	Precision instruments	$14,351	4%	1.3	$29,265	5.6%	1.6
	Base metals	$15,085	4%	0.6	$23,407	4.5%	0.7
GUATEMALA	Vegetables	$2,792	28%	11.1	$4,319	33%	11
	Foodstuffs	$1,801	18%	6.2	$2,061	16%	4.8
	Textiles	$1,518	15%	4	$2,223	17%	4.7
	Precious metals	$703	7%	2.3	$22	0%	0
	Chemicals	$661	7%	0.7	$885	7%	0.6
HONDURAS	Textiles	$3,235	42%	11	$4,424	42%	11.7
	Vegetables	$1,633	21%	8.4	$2,041	19.4%	6.5
	Machinery and electrical	$559	7%	0.3	$944	9%	0.3
	Foodstuffs	$404	5%	1.8	$799	7.6%	2.4
	Animal oils	$286	4%	6.5	$537	5.1%	7.8

Source: World Bank WITS (2025), using mirrored trade data. **Note**: Export competitiveness is measured by the Revealed Comparative Advantage (RCA) (Balassa 1965). It compares the export share of a given sector in a country's exports with the share of that sector in world exports. Sectors are defined by sections of the Harmonized System (HS).

the same period. During the same period, Mexican imports from China have more than doubled in volume terms, exceeding the country's average growth of trade. In 2023, for the first time in over two decades, Mexico surpassed China as the top source of goods imported to the US.

Guatemala and Honduras' exports increasingly depend on Latin American destination markets. About half of Honduras' exports are still destined for the US. Meanwhile, Honduras' exports to Latin America and the Caribbean (LAC) have increased from 18 to 28 percent over the same period. Similarly, Guatemala's exports, largely concentrated in vegetables, foodstuffs and textiles, have seen their reliance on the US market shrink from 46 percent in 2012 to 38 percent by 2022, while exports to LAC have grown, particularly to El Salvador, Honduras, and Costa Rica. These dynamics align with global value chain dynamics, with Mexico moving closer to final demand and Guatemala positioning itself more upstream as a supplier (**Annex Figure A1.3**). Honduras has been slowly moving up the textile and apparel value chain despite increased global competition. Demand for supply chain finance, therefore, is expected to account for a substantial share of overall future trade finance demand in Guatemala and Honduras.

The CAM-3 source most of their imports from the US, although China has become more important. Between 2012 and 2022, imports to Mexico and Guatemala rose by more than 50 percent in volume, with particularly strong growth in their leading sectors: minerals and base materials into Mexico, and processed food in Guatemala (**Annex Table A1.1**). For Mexico, the share of imports from the US fell from 61 percent to 53 percent (**Figure 1.2**). Conversely, imports from China more than doubled in value, and grew by 6 percentage points as a share of total, reflecting a shift in sourcing patterns. In Guatemala, imports from China increased more, from 12 percent to 19 percent, while imports from the US and the LAC region fell as a share of the total. Similarly, in Honduras, imports from the US fell from 52 percent to 43 percent, with imports from China and the LAC region gaining in importance. Taken together, the trends suggest growing sourcing of inputs from China for greater regional export penetration for smaller countries in the CAM-3, and the US market for Mexico.

The growing reliance of the CAM-3 on imports from China has implications both for the intensity and the structure of trade finance instruments used to support these routes (see Box 1.1 for a summary of the various types of trade finance instruments.) Earlier research suggested a high use of instruments such as letters of credit (LCs) and documentary collections in trade involving Asian countries (Niepmann and Schmidt-Eisenlohr 2017) compounded by the longer distance and time lag in trade with China relative to regional partners, warranting greater use of guarantees and advance liquidity.

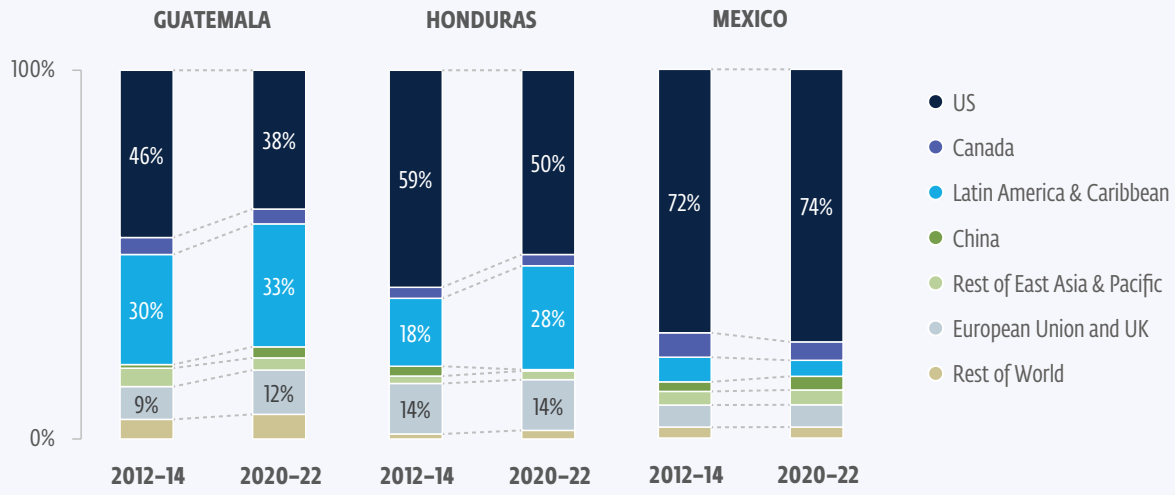
1.2 Trade Diversification

The expansion of new trade relationships, particularly into novel product and sales markets, has important implications for trade finance. Studies show that the level of bank-intermediated finance varies depending on the specific product traded. The intensity by which LCs are used, for example, shows intuitive correlations with product characteristics such as the value per weight,

FIGURE 1.1

US Remains CAM-3 Top Export Destination, But Latin America Attracting Growing Share

Exports by destination market, 2012–2014 vs. 2020–2022 average

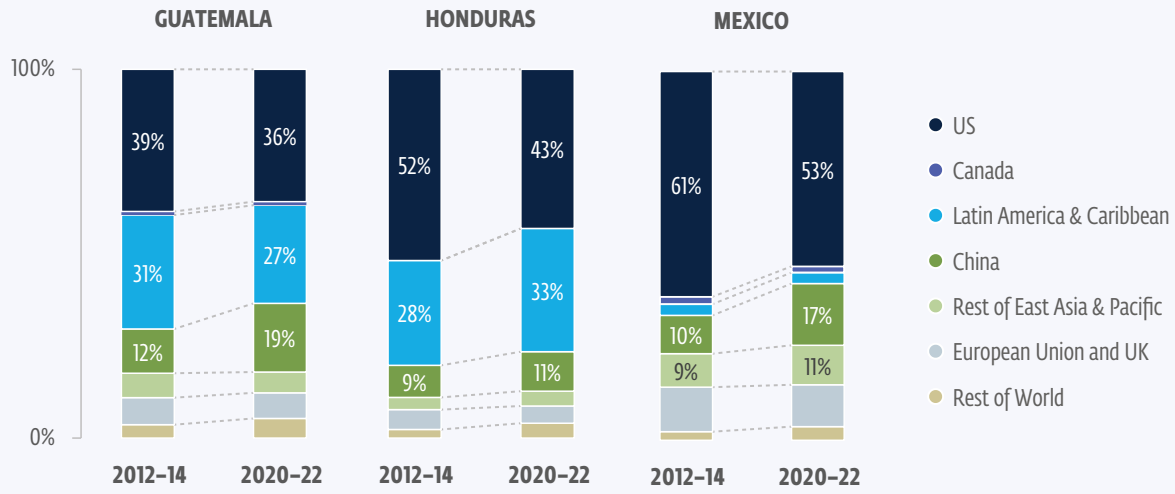


Source: World Bank WITS, using mirror trade data.

FIGURE 1.2

Increasing Share of CAM-3 Imports Coming from Asia

Imports by sourcing market, 2012–2014 vs. 2020–2022 average



Source: World Bank WITS, using mirror trade data.

durability, or average shipping time (Crozet et al. 2022). Diversification into new products thus stands to change relative demand for trade finance. Newer traders entering unfamiliar markets, moreover, face greater risks with new customers, leading them to rely more heavily on trade finance solutions to mitigate these risks (Antràs and Foley 2015).

As demand for trade finance grows, banks may become wary of taking on risk in unfamiliar sectors or with new market participants. The expansion of trade into less explored territories increases the need for detailed market intelligence and adaptable financial instruments that can help mitigate the unique risks of these markets. Such tools are essential to effectively support importers and exporters navigating these uncharted waters, ensuring they have the resources to manage uncertainty and secure transactions.

Product diversification

Mexico has a diversified export and import basket, with a product range that far surpasses that of Honduras and Guatemala. Mexico exports 4,700 products and imports 4,973 products, close to the entire universe of tradable products, with little change over time.[3] In contrast, Guatemala and Honduras have increased their product diversification by 11 percent and 6 percent of additional export lines since 2012, respectively. The number of imported products has remained relatively stable over time for the CAM-3.

There are, however, significant differences between sectors in product diversification. Mexico's electronics sector is notable for the diversity of its exported and competitive products (**Table 1.3**), reflecting Mexico's integration into global value chains, especially with the US and Canada, which has been further supported by the US-Mexico-Canada Agreement.[4] Honduras has export baskets that are overall less diversified and Guatemala has experienced a decline in diversification across all major sectors. Furthermore, while Mexico has moderately diversified the product range of imports and exports over the past decade, the greatest growth has been in the number of export markets, particularly in the automotive and precision instruments sectors. Honduras has also expanded its product range in several major sectors, although most of these products are not yet competitive.

Geographic diversification

Although Mexico is capitalizing on its export opportunities in international markets in targeted sectors, this trend is limited primarily to the top five export sectors. Mexico's export market penetration, which measures the extent to which a country is exploiting the market opportunities from the existing set of export products, is comparable to that of Viet Nam and Malaysia (**Annex Figure A1.1**). Despite a slight overall decline in export penetration over the past decade, Mexico's major export sectors have defied this trend by expanding into new markets and introducing some new product varieties (**Table 1.3**).

Guatemala and Honduras have maintained a considerably smaller presence in international markets. Their export market penetration is

3 The source of data is World Bank WITS, using mirror trade data.

4 Formerly, the North American Free Trade Agreement (NAFTA).

BOX 1.1

Trade Finance Instruments

Trade and supply chain finance can be categorized into two broad groups: 1. Finance without bank intermediation where trading partners extend payments or credit to each other, and 2. Bank- intermediated trade finance where banks guarantee conditions, payments between the partners, and extend loans to fill time lags between production, shipment, and delivery of the goods. The focus of this report is on the latter, but we define the main instruments of financing under each category below for completeness, based on a review of the literature including IFC (2014) and IFC and WTO (2023).

1. *Trade finance without bank intermediation*

- *Cash in advance payments* that require importers to pay for goods well in advance of receiving them, sometimes as much as one year. Such payments provide exporters with payment certainty but leave significant delivery risk for importers.
- *Open account payments* indicate payments that occur following shipment or receipt of goods. While cash in advance payments provide full certainty to exporters, open account payments provide certainty to importers.
- *Trade credit* refers to a short-term loan extended by the seller to the buyer when the goods and/or services are bought on credit. Trade credit facilitates the purchase of supplies without immediate payment.

2. *Bank-intermediated trade finance*

Instruments under this category may either be: 1. Unfunded, or documentary, products that do not include working capital loans, or 2. Funded products to enable production of merchandises to be traded, or a mixture of the two.

Unfunded trade finance instruments

- *Letters of credit* (LCs) are the most widely used facilities within the category of documentary trade finance. An LC is a written commitment to pay, typically issued by a bank on behalf of the buyer (importer) to the seller (exporter) or its bank. LCs carry several obligations for the seller (delivery conditions, submission of documentation) and the buyer (notably the guarantee that if the buyer is unable to pay, the bank will cover the outstanding amount).
- *Documentary collections* refer to intermediation guaranteeing the conditions and legal terms of financial agreements among trading partners by their respective financial institutions. Such an arrangement involves an exporter who ships merchandise and submits shipment documents to its financial institution (remitting bank) that subsequently transfers them to a bank representing the importer (collecting bank). The collecting bank agrees to release importation documents to the importer conditional on the latter paying for imported goods. These instruments may be preferable to LCs at lower levels of risk since they are less costly and generally involve a single legal jurisdiction.
- *Payment guarantees and standby LCs* are instruments where banks provide a guarantee to the seller (exporter) that ensures payment is made if the buyer (importer) fails to fulfill their payment obligation after the goods have been delivered. These instruments offer security to the exporter by mitigating the risk of non-payment, but unlike traditional LCs, they are typically used as a backup to support the buyer's payment obligations.
- *Bid/performance bonds* are a type of guarantee provided by a third party, usually a bank or insurance company, to ensure that a seller (or contractor) will meet the obligations outlined in a contract. The bond serves as a safety net for the buyer, guaranteeing that the seller will either perform the work as agreed or compensate the buyer if they fail to do so. This helps the recipient mitigate counterparty risk for the delivery of goods or services.

Funded trade finance instruments

- *Pre-export finance* refers to an arrangement where a financial institution or other lender advances funds to a business based on orders from buyers, typically to cover production costs, before export deliveries take place. The exporter uses these funds to produce and supply goods to the buyer.
- *Post-shipment finance* refers to financing provided to exporters after they have shipped goods, allowing them to receive payment before the buyer settles the invoice. This enables the exporter to access funds quickly instead of waiting for the payment terms to be fulfilled.
- *Import finance* refers to a form of financing that allows importers to pay exporters at a later stage, typically after the goods have been sold. It enables importers to cover the upfront costs of imports and pay the exporter once the goods have been sold, addressing the time gap between purchase and sale.
- *Working capital loans* are flexible financing options that help businesses cover day-to-day operational expenses, such as purchasing inventory or managing cash flow. In international trade, they provide funding to pre-finance imports and exports, allowing businesses to manage the gap between purchasing goods or fulfilling orders and receiving payments.
- *Supply chain finance* may refer to open account or pre-shipment payments, discussed above, for intermediate goods along the supply chain, and can potentially be combined with risk mitigation practices to optimize the management of working capital and liquidity invested in supply chain processes. While some institutions include in the term all types of trade loans (see GSCFF 2016), for the purposes of this report we use the term to refer exclusively to arrangements outside the scope of regular trade loans. Supply chain finance encompasses a broader range of supplier financing arrangements, including the ones discussed below:

  i. *Receivables discounting* where a financial institution purchases individual or multiple receivables from a seller of goods and services at a discount. At maturity, the buyer pays back the receivable proceeds to the financial institution.

  ii. *Forfaiting* involves the purchase of medium- to long-term future payment obligations represented by financial instruments (LCs, promissory note, etc.) by a financial institution at a discount, without recourse to the exporter, in return for a financing charge. At maturity, the buyer pays the face value to the financial institution.

  iii. *Factoring* where a financial institution purchases individual or multiple receivables from a seller of goods and services at a discount. The financial institution also takes responsibility for managing the debtor portfolio and collecting the receivables. At maturity, the buyer pays the invoice proceeds to the financial institution.

  iv. *Payables finance* (reverse factoring) involves a buyer-led program in which sellers sell their receivables to the financial institution. The financial institution agrees to finance sellers based on the creditworthiness of the buyer. The buyer pays the principal amount owed at the invoice maturity/due date to the financial institution.

  v. *Distributor finance* involves financing for a distributor of a large manufacturer to provide funds to hold goods for sale and to reduce the liquidity gap. The funding is usually provided through direct financing by means of loans and is subject to annual review. At maturity, the distributor repays the financial institution.

  vi. *Pre-shipment finance* involves a loan provided to a seller by a financial institution for sourcing, manufacturing, or conversion of semi-finished goods into finished goods, which are then delivered to a buyer. The financial institution usually provides a percentage of value of the order as an advance, with disbursement in stages as the order is fulfilled. At maturity, the seller repays the financial institution.

similar to that of its comparator countries[5] and slightly declined between 2012 and 2022 (**Annex Figure A1.1**). This trend is reflected in Guatemala's five major export sectors, which have seen a decrease both in product variety and sales markets (**Table 1.3**). Honduras has even more limited access to export markets.

1.3 Trade in Goods at Different Stages of Processing

The use of trade finance instruments varies depending on the processing stage of the goods. Capital and intermediate goods are, other things equal, more likely to be covered by trade finance instruments, such as LCs, when crossing borders than consumer goods or raw materials (Crozet et al. 2022; IFC and WTO 2022). Demand for bank-intermediated trade finance is associated with the structure and dynamics of trade, with greater reliance on such instruments for more complex or higher-value transactions. These dependencies may be muted in the case of individual countries where trade may be dominated by firms with specific characteristics (e.g. foreign affiliates) or takes place at low distance and market risk (e.g. between neighboring highly integrated countries). They, instead, gain relevance as a country's manufacturing production expands globally to other destinations and unrelated parties.

The export composition of the CAM-3 reflects their different levels of development. Mexico, with a broad range of products including capital goods, has seen such exports grow from 40 percent of its total exports in 2012 to 47 percent in 2022, indicating advanced industrial capabilities akin to more advanced economies like Malaysia (**Figure 1.3**). In contrast, Guatemala and Honduras focus more on exporting consumer goods and raw materials, with limited exports of intermediate and capital goods, reflecting their earlier stages of development.

A significant share of Mexico's imports are intermediate and capital goods which, other things equal, tend to utilize LCs more intensively. These kinds of goods accounted for 57 percent of the country's total imports and exports in 2022, compared with 33 percent and 27 percent respectively in Guatemala and Honduras. They serve as inputs for further production processes in Mexico's manufacturing and industrial sectors, particularly in the automotive and electronics industries (**Figure 1.4**). The complex nature of cross-border transactions for such goods requires reliable financing mechanisms to mitigate risk, ensure timely payment, and secure the flow of essential components for production.

The CAM-3 rely heavily on imports of consumer goods. This is particularly the case for Guatemala and Honduras (both 43 percent of total imports) but is also the case for Mexico (33 percent). All three have shares above the world average (**Figure 1.4**).

1.4 Participation in Global Value Chains

The CAM-3 have become more integrated into global value chains. Mexico in particular

5 Mexico's comparator countries include Brazil, Chile, Colombia, Malaysia, Poland, Türkiye, and Viet Nam, selected based on GDP per capita, population size, natural resource rents, land area in the geographical tropics, overall land area, and proximity to the coast. Guatemala and Honduras' comparator countries are Belize, Costa Rica, El Salvador, Nicaragua, and Panama.

TABLE 1.3

Exports and Competitiveness of Top Five Sectors by Country

		Average 2010–12			Average 2020–22			% Change over time		
		Exported products	Competitive products	Destination markets	Exported products	Competitive products	Destination markets	Exported products	Competitive products	Destination markets
MEXICO	Machinery and electrical	755	167	98	749	179	136	-1%	7%	39%
	Transport equipment	114	35	90	120	43	132	6%	23%	47%
	Minerals	122	20	70	128	20	96	5%	0%	37%
	Precision instruments	206	76	93	205	90	131	0%	18%	41%
	Base metals	531	39	91	536	39	135	1%	0%	48%
GUATEMALA	Vegetables	225	71	70	222	66	65	-1%	-7%	-7%
	Textiles	148	65	63	143	63	62	-3%	-3%	-2%
	Foodstuffs	568	180	157	551	156	138	-3%	-13%	-12%
	Animal oils	22	6	6	19	2	2	-16%	-67%	-67%
	Chemicals	408	56	55	394	55	53	-3%	-2%	-4%
HONDURAS	Textiles	441	7	6	483	8	7	9%	14%	17%
	Vegetables	158	16	12	167	14	12	6%	-13%	0%
	Machinery and electrical	482	2	3	485	4	4	1%	100%	33%
	Foodstuffs	117	30	29	127	25	23	9%	-17%	-21%
	Animal oils	18	13	11	20	8	11	9%	-38%	0%

Source: World Bank WITS, using mirrored trade data. **Note**: Number of competitive products counts the HS6-digit products with Revealed Comparative Advantage (RCA)>1. Sectors are defined by sections of the Harmonized System (HS). Three-year averages are used to reduce the influence of cyclical fluctuations and focus on changes from the early 2010s to the early 2020s.

has seen a significant increase in its backward integration into regional production networks between 2011 and 2021 (**Annex Figure A1.3**). This has primarily involved importing intermediate inputs from outside the region to process in its so-called *maquiladoras*, manufacturing plants enjoying privileges aimed at export production. Moreover, the United States-Mexico-Canada Agreement increasing the regional value content requirements in the automotive industry—from 62.5 percent under the North America Free Trade Agreement, the agreement that preceded it, to 75 percent—has been conducive to local sourcing by Mexican original equipment manufacturers. This shift is reinforced by the Mexican government's national relocation strategy, which aims to attract investments and increase domestic content in strategic sectors including automotive, electronics, and semiconductors.

The implications for trade finance are twofold. Firstly, financing remains essential for local exporters to bridge the time gap between paying for imported intermediate goods and receiving their export revenues—a gap that is particularly large due to shipping distances. Supply chain finance would help local suppliers fill the time lag between shipping inputs and payments. Secondly, Mexican companies looking to expand or diversify their operations away from imports will need to alleviate risks associated with cross-border transactions, especially when dealing with new or unfamiliar trading partners. In contrast, Honduras and Guatemala have relatively limited engagement in global value chains, with modest growth in participation between 2011 and 2021. Their involvement is predominantly in the assembly of final textile and apparel products—a buyer-driven, labor-intensive segment common in consumer goods industries, where tools such as pre-shipment financing, factoring services, and inventory financing, can help them manage cash flow.

1.5 Trade by Firm Characteristics: the Case of Mexico

Mexico's multinational firms account for a large share of the country's trade flows. Foreign or domestically owned multinationals accounted for 65 percent of Mexico's trade in 2020, a share that has consistently exceeded all comparator countries over several years (**Figures 1.5**). Moreover, 65 percent of Mexico's exports to the US, and 39 percent of its imports from the US, involve transactions between related parties, defined as those with an ownership stake of 10 percent or more (**Table B3.1**). These are among the highest shares observed. The sizable weight of firms present in multiple countries and the weight of related-party trade has strong implications for trade finance use.

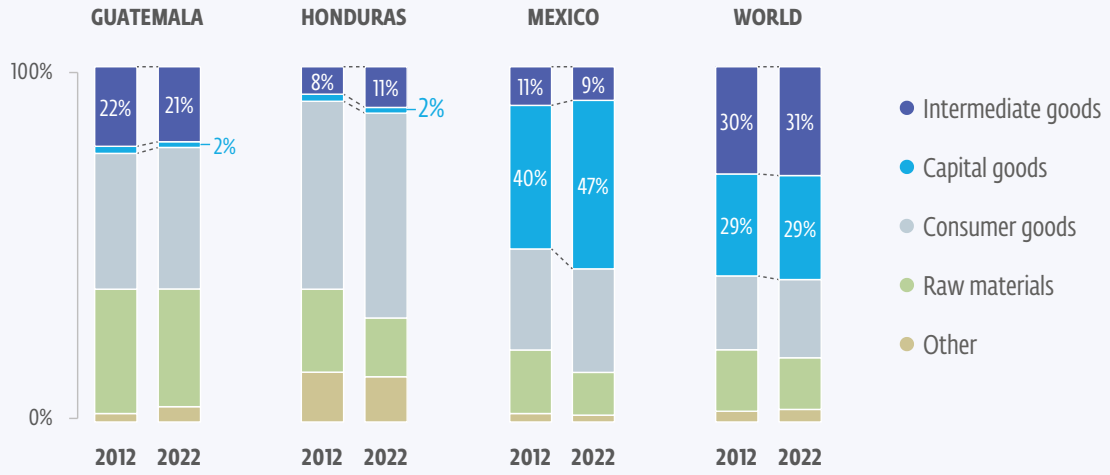
These multinational firms tend to trade on open account terms with their subsidiaries without necessarily using bank intermediation (Niepmann and Schmidt-Eisenlohr 2017). Mexico's manufacturing multinationals source a large proportion of their inputs from abroad (45 percent), a level similar to Viet Nam and Poland, two countries known for their participation in automotive global value chains (OECD 2024, AMNE database). However, a sizable portion of that trade is likely taking place without formal bank intermediation.

Mexico's export landscape is furthermore dominated by large firms, a pattern that aligns with the dominance of multinational firms. Firms with more than 500 employees account for the bulk

FIGURE 1.3

Mexico's Trade Includes More Intermediate and Capital Goods

Exports in CAM-3 and World, by processing stage, 2012 vs. 2022

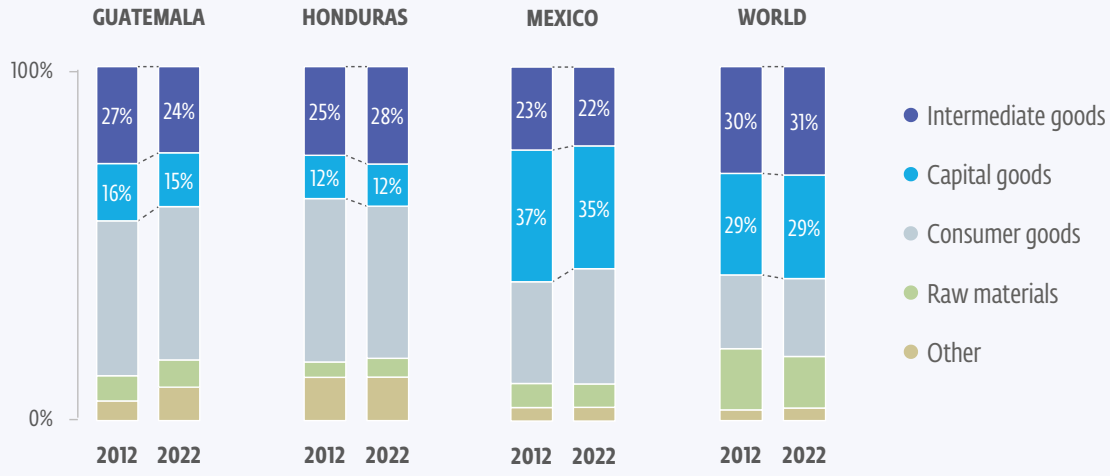


Source: UNCTAD.

FIGURE 1.4

Guatemala and Honduras Rely Heavily on Consumer Good Imports, Mexico Less So

Imports for CAM-3 and World, by processing stage, 2012 vs. 2022

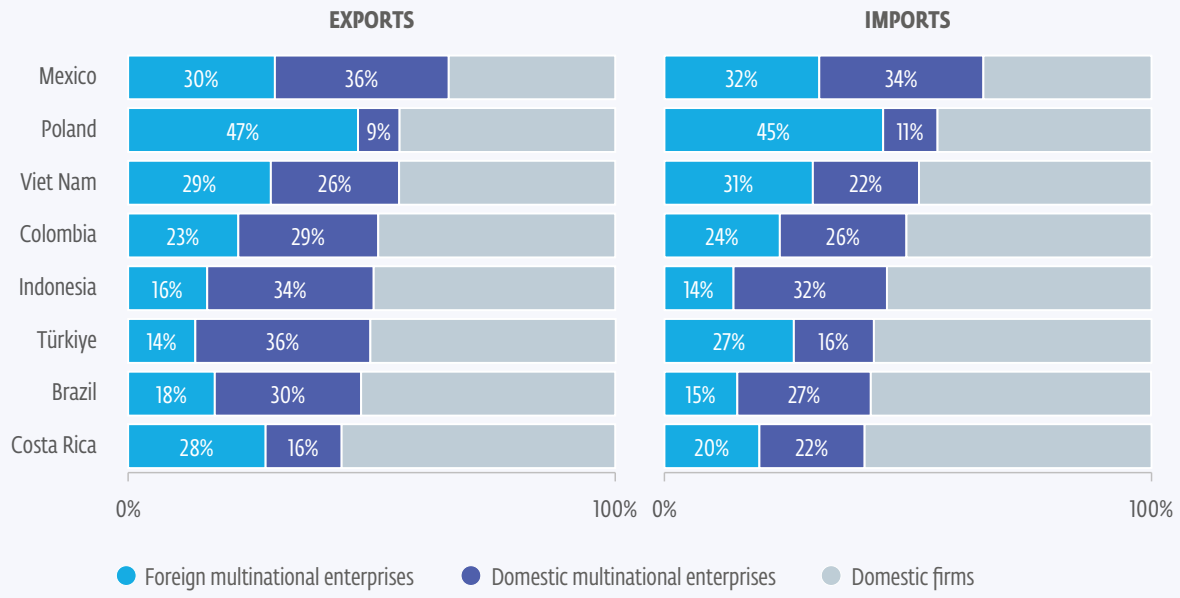


Source: UNCTAD.

FIGURE 1.5

Multinational Firms Responsible for Two-Thirds of Mexico's International Trade

Export and import contribution by firm type, 2019



Source: OECD (2024). **Note**: This database distinguishes between three types of firms: foreign affiliates (firms with at least 50 percent foreign ownership); domestic multinational enterprises (domestic firms with foreign affiliates); and domestic firms not involved in international investment.

of exports in virtually all manufacturing sectors (**Figure 1.6**). In industries like food, textiles, and chemicals, international trade is almost exclusively driven by these enterprises. While smaller firms (1 to 250 employees) participate in export markets, their contributions remain small apart from sectors such as machinery, equipment, and furniture, which show slightly more diverse participation.

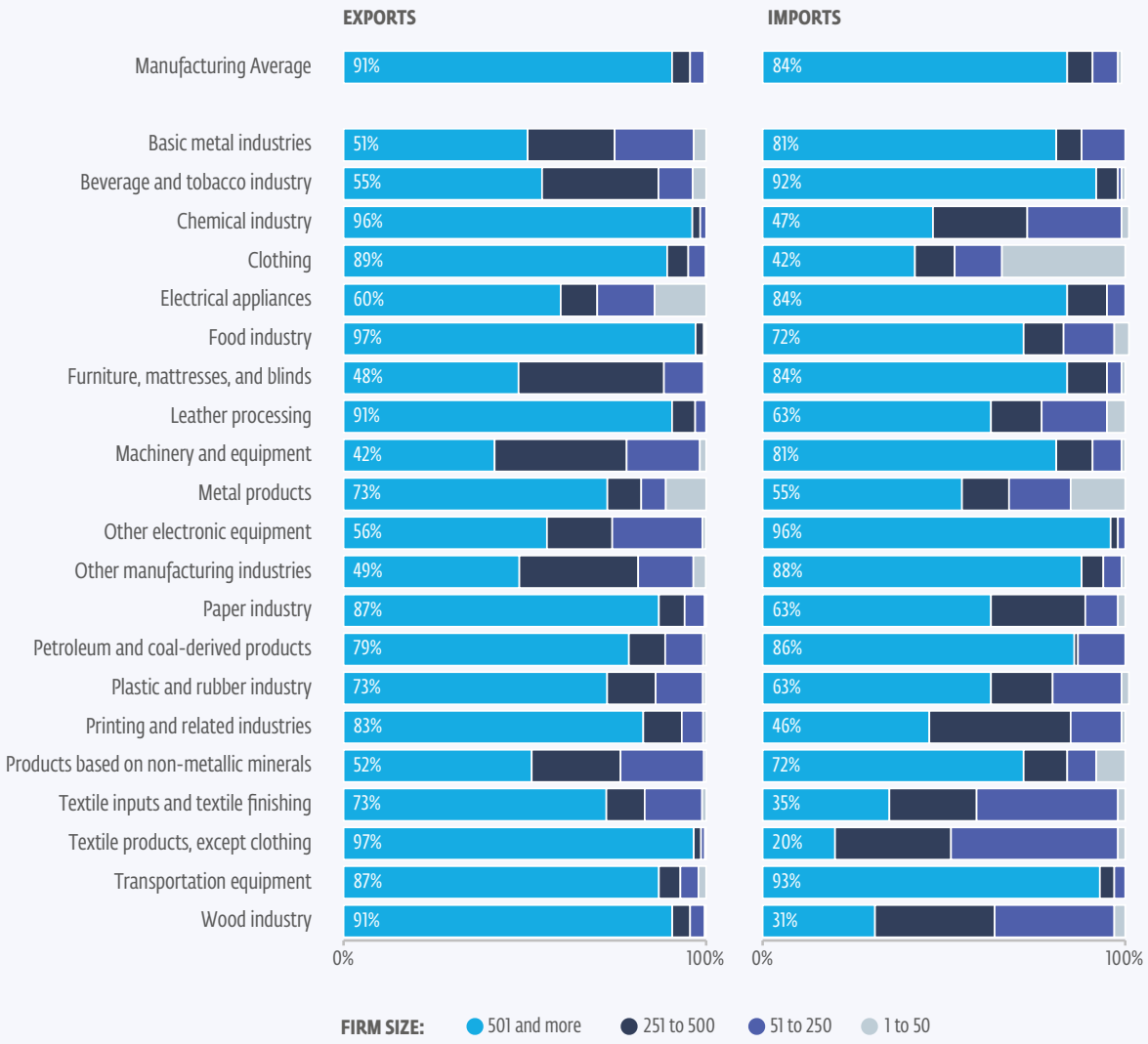
Mexican imports are similarly concentrated among large firms. This pattern is less pronounced in sectors like textile products and chemical industries, where small- and medium-sized firms account for the majority of import value (**Figure 1.6**). Smaller firms with 1–50 employees generally contribute less than 20 percent of import value in their respective sectors, except for in the apparel industry. Mid-sized firms (51–250 and 251–500 employees) typically occupy the intermediate ranges, collectively accounting for roughly 20–40 percent of import value, suggesting that economies of scale play a crucial role in determining a firm's ability to import within Mexico's industrial landscape.

The dominance of large firms in Mexican trade may affect demand for trade finance. Due to the

FIGURE 1.6

International Trade in Mexico Is Dominated by Larger Firms

Export and import value share in Mexico, by firm size and sector, 2023



Source: INEGI (2024).

scale and lower risk involved in their transactions, large firms, many of them foreign-owned,[6] may be in a better position to secure favorable and longer payment terms without recourse to bank intermediation even if the latter is available to them at low cost. At the same time, medium-sized firms in light manufacturing sectors where they constitute a sizable share, likely have greater need for bank intermediation and can be expected to drive demand for local trade finance (**Chapter 1: Spotlight**).

1.6 Trade Costs

Trade involves several costs other than the cost of financing, e.g. those associated with transport, regulatory compliance, currency conversion and trade-related levies such as import tariffs. Elevated trade costs not only restrict direct trade but can also impede access to trade finance by compressing profit margins and increasing the perceived risk for financial institutions.

Although global trade costs fell by approximately 15 percent between 2000 and 2018 (WTO 2021), progress was less pronounced in the CAM-3, with disparities in improvements across countries, margins of trade, and sectors. Mexico's trade costs are lower and more uniform for exports than those for Guatemala and Honduras (**Figure 1.7**). In addition, average trade costs in Mexico for exports to its top 10 partners declined 7 percent between 2008 and 2021, while remaining constant for Honduras and Guatemala. Mexico also has the lowest trade costs to export manufacturing products, with a downward trend over time. In contrast, Honduras and Guatemala have seen lower and declining trade costs in agriculture, in line with their export specialization in vegetables and foodstuffs. Taken together, these factors place the CAM-3's export trade costs in a favorable position compared to comparator countries (**Annex Figure A1.2**).

The CAM-3's costs of importing declined between 2008 and 2021. This is particularly the case for Mexico, where import costs fell by 19 percent between 2008 and 2021 (**Figure 1.7**). Similarly, Guatemala saw a 12 percent decline in import costs over the same period. The reduction in trade costs with China—the primary sourcing destination for the CAM-3—has been a key factor in this trend.

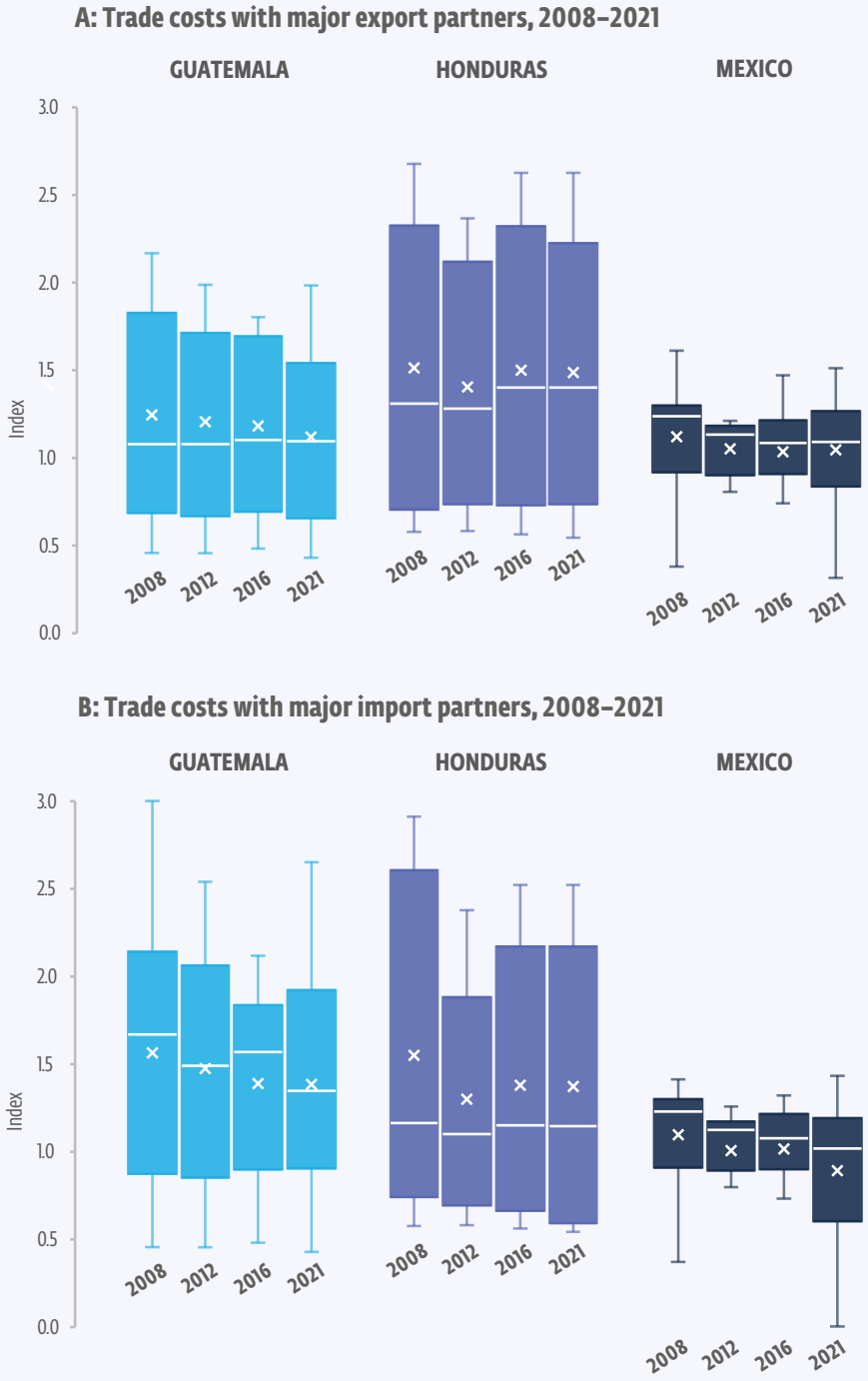
1.7 Outlook: Uncertainty and Macroeconomic Challenges

Rising economic uncertainty, both globally and in the three countries examined in the report and their major trading partners, is making it increasingly hard for firms to predict trade policy conditions in the short to medium run, invest and grow their outward activities (**Figure 1.8**). The challenge is particularly acute for smaller businesses with limited resources and high switching costs. Although the trade outlook for Central America and Mexico improved considerably in 2024 relative to previous years, there are still questions as to whether the region has returned to a path of sustained trade growth (Giordano and Michalczewsky 2025). Higher participation in global value chains, at levels observed in Mexico, tends to amplify the negative effect of uncertainty on trade, with bilateral trade between developing and advanced economies being most affected

6 INEGI (2023).

FIGURE 1.7

Trade Costs Have Declined for Imports, Less So for Exports



Source: UN ESCAP (2021).
Note: The index of trade costs can be interpreted as how many times higher international trade costs are compared to domestic trade costs. For example, a value of 2 means that international costs are double the domestic trade costs. The box plots display a four-number summary of the trade cost distribution across Central America-Mexico and their top partners (top 10 destinations for exports and top 10 origin countries for imports). The bottom of each box represents the first quartile, the horizontal line the median, the cross the mean, and the top of the box the third quartile of trade costs in each year.

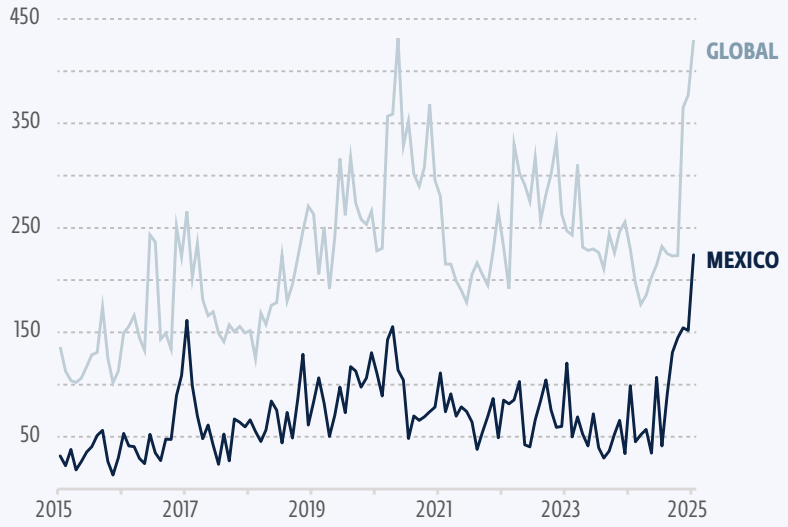
(IMF 2024). In the case of Guatemala and Honduras, uncertainty arises also from persistent current account deficits, high dependence on remittances from the US, and exposure to external shocks such as commodity price fluctuations.

Bank intermediated trade finance is particularly relevant in that context, comprising a range of instruments designed to mitigate risks of cross-border trade. The economic literature has documented greater use of bank-intermediated trade finance during periods of uncertainty, such as the years following the 2008 Global Financial Crisis (BIS 2014; Niepmann and Schmidt-Eisenlohr 2017), greater flows of trade credit between firms following external trade policy shocks (Demir and Javorcik 2018), or disasters such as the COVID-19 pandemic (Crozet et al. 2022). Necessary adjustments to respond to supply chain disruptions or policy-induced costs, such as switching to new suppliers and reorientation of exports, are often undertaken with imperfect information and risks that are likely to increase recourse to bank intermediation.

FIGURE 1.8

Rising Trade Policy Uncertainty Is an Emerging Challenge

Economic policy uncertainty index, 2015–2025



Source: Economic Policy Uncertainty Index (2025)
Note: The index of Economic Policy Uncertainty (EPU) based on newspaper coverage frequency. Updates available at: https://www.policyuncertainty.com/index.html (recovered February 2025). Methodology in Baker et al. (2016).

Structural challenges in Guatemala and Honduras

Guatemala and Honduras face several interrelated macroeconomic challenges that affect trade finance markets. These challenges include financial sector constraints, informal economic activity, poor infrastructure, and remittance dependencies (IMF 2023, 2024).

Domestic financial infrastructure is still in a relatively early stage of development in both countries, even though their banking system is generally sound, with healthy balance sheets, adequate capitalization, and low levels of non-performing loans (IMF 2023, 2024). As a response to the commodity shocks in 2022, the Central Bank of Honduras intervened in foreign exchange markets to limit the pass-through of global inflationary pressures, ultimately reverting to an auction system for the allocation of foreign exchange in 2023 (IMF, 2024). These factors may reduce banks' ability to efficiently source foreign currency funding for trade finance.

Limited access to credit impedes trade participation for SMEs in both countries. According to IFC estimates, the financing gap for micro, small, and medium-sized enterprises in Guatemala was equivalent to 22 percent of GDP in 2018, more than six times the volume of actual financing of micro, small, and medium-sized enterprises. Small firms report access to credit as a top obstacle in Honduras as well (World Bank Enterprise Surveys 2020).

Beyond financing, poor infrastructure and services for traders pose additional constraints to internationalization. In sectors such as agriculture, where a large share of trade still takes place, a prime challenge is reducing substantial post-harvest food losses due to insufficient investment in storage and preservation facilities (World Bank 2019, for Guatemala). The use of warehouse receipts can be potent alternative to collateral that makes financing accessible to smaller traders; yet in Guatemala there are significant shortages of storage facilities, and connections with banks.

Widespread informality in Guatemala and Honduras (IMF 2023, 2024) poses additional difficulties for banks to assessing creditworthiness and verifying financial documentation from potential trade finance clients. This often results in either rejected applications or prohibitively expensive collateral requirements. Remittances, which account for 19 percent of GDP in Guatemala and 26 percent in Honduras (WDI 2023), tend to fill gaps in foreign exchange and working capital needs, further limiting the use of bank intermediation.

SPOTLIGHT

Mexico's Trading Firms' Limited Access to Financial Intermediation

As part of this study, a specific analysis was made of the access of Mexican firms engaged in international trade to bank credit, using unique administrative data on the universe of loans provided by Mexican banks matched with customs data. We show that trading firms are primarily financed outside the banking system, with only about a quarter receiving any type of loan, either short- or long-term, from Mexican banks. Loans to firms engaged in international trade in Mexico are predominantly short-term; 80 percent come from the country's seven largest banks and over half benefit the top 100 trading firms. New traders are under-represented in the loan portfolio of banks. Those getting access, have typically already had connections with banks while not engaged in international trade.

The evolution of credit over the last six years point, moreover, to growing gaps that are relevant for development. While small firms represented considerably more than half of the credit-receiving traders across recent years, medium and large firms have grown their relative numbers in the loan portfolio of banks. Small trading firms incur higher interest rates and a wider range of rates within the group. New traders show an even wider spread in their borrowing rates, even compared to non-trading firms. Trade flows with China and the US have been growing at faster pace than bank loans for traders, suggesting that Mexican firms active in these routes rely less on the local banking system for finance. Importers from the US rely significantly on bank loans within this category.

Trade loans refer to short-term liquidity granted for either cross-border payments or for production destined for overseas markets. However, estimating their precise volume remains challenging because firms predominantly use the same factors of production—financed by the credit they receive—for both domestic and international sales. Therefore, the official records of loans to firms engaged in international trade presented in this section can be considered an upper bound of trade loans and shed light on variation in access to credit and associated conditions among trading firms over time. According to the administrative data use in this section, short-term loans to trading firms (including funded letters of credit (LCs), working capital loans, and loans for liquidity) in 2023 accounted for $89 billion

TABLE 1B.1

Share of firms that received loans in 2023 according to their trade status

	Traders		Non-traders	
	Total firms (%)	Received loans (%)	Total firms (%)	Received loans (%)
Large	19.4%	41.3%	2.1%	11.7%
Small, Medium	47.0%	30.8%	15.0%	18.2%
Microenterprises	33.6%	7.7%	82.8%	1.2%
Total, all sizes	100.0%	25.1%	100.0%	3.9%
Total # of firms	60,040	15,065	2,400,962	94,729

Source: S&P Panjiva (2024) for trade aggregates by firm and The National Banking and Securities Commission (CNBV) for loans.
Notes: The total firms size distributions (columns 1 and 3) are estimated using Economic Census data. Total firms that participated in trade are measured as unique tax IDs in the Customs data for 2023, while non-traders are calculated based on information from the Tax Administration Service regarding firms with active tax IDs. Small, medium and large firms in Mexico are classified according to the number of employees and sector of economic activity. In the manufacturing sector, firms are categorized as micro, small, medium, or large if they have 10, 50, 250, or more than 250 employees, respectively. In the services sector, firms fall into the same categories with thresholds of 10, 50, 100, and more than 100 employees. For the commerce sector, the classification is similar to that of services, except that the lower limit for medium-sized firms is 30 instead of 50. Additionally, firms are further classified using a Maximum Combined Threshold, which considers both the number of employees and gross income.

(an amount approximately equivalent to 7 percent of total trade), of which $25 billion was denominated in foreign currency.

One in four Mexican trading firms receives credit from local banks.

Mexico's banking sector is the second largest in Latin America by assets after Brazil (S&P Global, 2024). The sector is characterized by a high degree of concentration, with the top seven banks holding approximately 80 percent of total assets. Leading Mexican banks are primarily subsidiaries of large international banking groups. The remaining 20 percent of assets are held by 43 banks, including some foreign specialized banks as well as local and regional banks that cater to more specific customer profiles. Additionally, six development banks hold part of these assets.

The banking sector has grown and diversified considerably in recent years with a surge in digital banking services; yet, the majority of the country's firms remain without access to finance.[7] Firms engaged in international trade are not an exception: according to the 2019 Economic Census, only 38 percent of formal or informal establishments engaged in trade, across all sectors of the economy, received some form of financing.

Granular administrative data on the universe of loans to firms, as recorded and reported to Mexico's National Banking and Securities Commission (CNBV), matched with trade by firm tax ID from S&P Global Market Intelligence's Panjiva data platform, offer additional insights into bank lending for firms that engage in international trade. Data submitted by banks and financial entities to the regulator in a dedicated report,[8] provide detailed loan-level information for evaluating credit risk exposure, portfolio quality, and systemic risk in the financial sector. This compilation covers 12.5 million credits issued by both commercial and development banks, spanning 2018–2024. It includes data on loan conditions (e.g., interest rates, tenure), currency, and characteristics of borrowing firms (e.g., size, sector) at the time of credit issuance. Merged, via tax IDs, with administrative Mexican Customs records (S&P Panjiva 2024), the data make it possible to consider firms that are involved in exports or imports each year among loan beneficiaries.[9] On average, approximately 60,000 firms were engaged in trade annually during the analysis period.

Evidence from this unique source of data confirms that trading firms are primarily financed outside the banking system. Specifically, in 2023, only about a quarter of trading formal firms—defined as those with a tax ID—received any type of loans, either short- or long-term, from Mexican banks (**Table 1B.1**).[10] This proportion remains the same when considering only firms involved in imports.

A few banks and trading firms account for the bulk of credit.

In 2023, over 80 percent of the short-term loans received by firms engaged in trade came from Mexico's seven largest banks, with concentration of other activities performed by these banks being significantly lower.[11] Loans are more concentrated to fewer banks than other bank assets (Panel A, **Annex Figure A2.1**), and short-term loans to Mexican firms engaged in trade particularly so,

7 Only 12 percent of the establishments in the 2019 Economic Census received some form of financing, whether from banks, suppliers, government, or others. If the sample is restricted to establishments with more than five employees, the figure rises to 22 percent, aligning with the results of the National Survey of Enterprise Financing (ENAFIN), which focuses on firms of this size (see Iacovone et al. 2022). ENAFIN 2021 indicates that among firms with more than five employees, 47 percent have requested financing at least once since they started operations, and one-quarter of the firms surveyed had financing in 2020.

8 Namely, CNBV's R04-C report.

9 By definition, the firms analyzed in this study are formal, as the dataset relies on tax IDs for identifying and matching records.

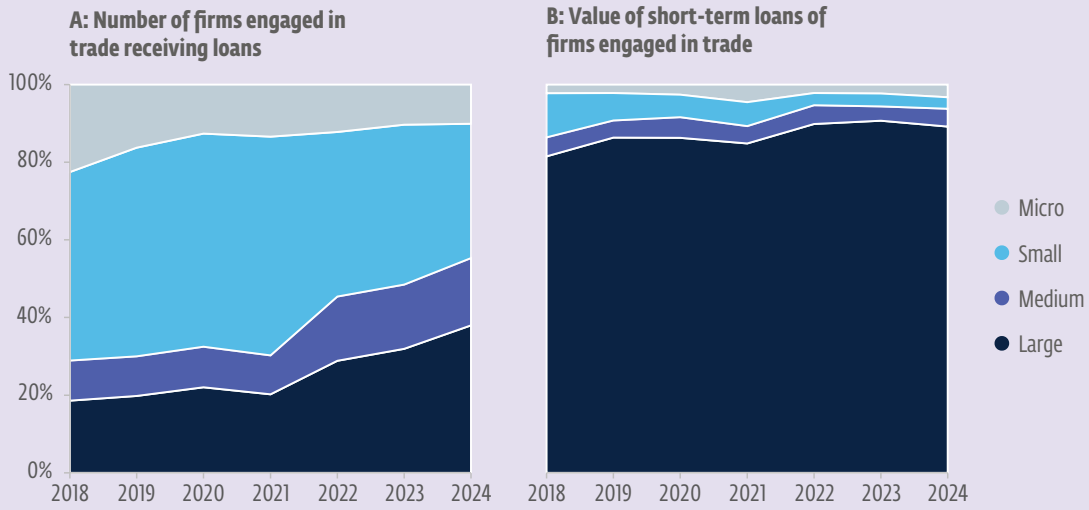
10 In addition, only 4 percent of non-trading firms have received any loan from banks, highlighting the exclusion of the vast population of formal enterprises from the banking system.

11 Mexico's seven largest banks, as of 2023, were: BBVA, Banamex, Santander, Banorte, HSBC, Scotiabank, and Inbursa. Of these, only Banorte and Inbursa are predominantly Mexican-owned. The share of these seven banks in total assets was 75 percent the same year, indicating lower concentration of assets other than loans.

FIGURE 1B.1

Short-Term Loan Portfolio to Trading Firms Is Concentrated in Large Firms

Bank loans to firms engaged in trade by firm size (number of loans and value, percent of total)



Source: S&P Panjiva (2024) for trade aggregates by firm and The National Banking and Securities Commission (CNBV) for loans.
Note: Small, medium and large firms in Mexico are classified according to the number of employees and sector of economic activity (Table 1B.1).

approaching levels that could be considered high.[12] Variation over time tends to be substantial, likely because, contrary to other assets, loans are more sensitive to regulatory changes, such as the reduction in capital requirements for credit risk and other measures implemented in response to the COVID-19 pandemic (Gallardo Martinez 2023).

A few trading firms, moreover, account for the bulk of credit provided by banks. In particular, the top 100 firms receiving short-term loans in 2023 accounted for almost half the total value of such loans. The levels of user concentration are higher when it comes to short-term loans among firms engaged in international trade. Regardless of the measure used—whether the Herfindahl-Hirschman Index (HHI) or the share of the top 100 firms—concentration has been increasing before the pandemic but declined afterward.

'New' traders, meaning firms trading for under a year, are underrepresented in the loan portfolio of banks: only 18 percent of firms that had not engaged in trade prior to that year received credit from banks in 2023, compared to a higher aggregate 25 percent across traders of any experience.[13] Of these new traders most are not new borrowers: two thirds had already received credit from banks while not engaged in international trade. On average the value of their credit is small: new traders accounted for less than 1 percent of the total value of short-term loans.

Loans and user characteristics vary significantly.

Overall, loans to trading firms in Mexico are predominantly short-

12 The qualification follows US Department of Justice (DOJ) categories used by the regulator in the US for many sectors and also in the literature on competition and monopsony: HHI < .15 Low concentration, 0.15-0.25 Moderate, HHI > 0.25 High concentration.

13 Within the population of traders, 9 percent of firms in 2023 were new to trading defined as those not engaged in trade prior to that year.

term, averaging less than 180 days in duration,[14] with a significant emphasis on working capital, which in 2023 accounted for 84.3 percent of their total loan portfolio. Other types of credit these firms use include factoring with recourse (9.6 percent) and factoring without recourse (2.5 percent), while funded LCs represent only 0.1 percent of all loans. These findings, coupled with the fact that nearly half of all firms using loans in Mexico rely on revolving credit, highlight a dominance of traditional working capital financing instruments, with limited usage of other credit instruments.

Among firms that receive short-term loans from local banks, one sector of economic activity stands out: food manufacturing, regardless of whether all firms engaged in trade are considered or only those that export or import. This finding reflects the high concentration of domestically owned and medium- to large-sized traders in this sector (see Chapter 1). Other sectors that account for a significant share of short-term loans to trade firms include the retail of hardware, paint, and glass products, as well as the retail of auto parts and fuels, which are predominantly associated with import-oriented firms. In contrast, exporters receiving bank credit are more active in sectors such as metal and mineral products, followed by automotive and transport equipment, which align with the export structure presented in Chapter 1. While small firms represented more than half of the credit-receiving traders in recent years, their share declined to 50 percent in 2023 (Panel A, **Figure 1B.1**) as medium and large firms grew their numbers in the loan portfolio of banks. In terms of value, large firms accounted for more than 80 percent of short-term loans associated with trade between 2018 and 2024 (Panel B, **Figure 1B.1**).

Small trading firms incur higher and a wider range of interest rates within their group.

Small trading firms consistently face higher interest rates than the rest of traders; a fact that is unsurprising given their lower productivity and higher risk associated with scale. The gap, however, between small and large traders is narrower than the gap in the entire firm population, reflecting exceptional characteristics of small traders (**Annex Figure A2.2**). Rate differences between small and medium-sized traders have narrowed during the last two years with large traders being the only group maintaining average rates closer to the policy rates even among large firms in the entire population (Panel A, **Figure 1B.2**, and **Annex Figure A2.1**).[15] While the trends for firms of all sizes generally follow the movement of the Interbank Equilibrium Interest Rate (TIIE)—a benchmark set by the Bank of Mexico and widely used for determining rates on variable-rate loans and other financial instruments—the difference between these largest firms and smaller firms remained consistent throughout the period. These findings align with those of Cañon et al. (2022), who conducted a broader analysis of firms receiving loans in Mexico, finding that higher loan costs are typically concentrated among microenterprises, small firms, and firms located in the central and southern regions of the country.

Within their size class, smaller firms engaged in trade face a wider variation in interest rates than traders of larger sizes. As shown in **Figure 1B.2**, not only are interest rates higher but the dispersion of rates, measured by the difference between the 90th and 10th percentiles, is also greater for smaller firms.

This stands in sharp contrast to the experience of larger firms, which not only benefit from lower rates but also greater consistency, as reflected in their significantly lower rate dispersion. Contrary to the trends observed in the entire population of borrowing firms, the variation in rates of medium-size and large firms has grown in recent years, likely reflecting the differential treatment of new entrants and their growing weight in total loans.

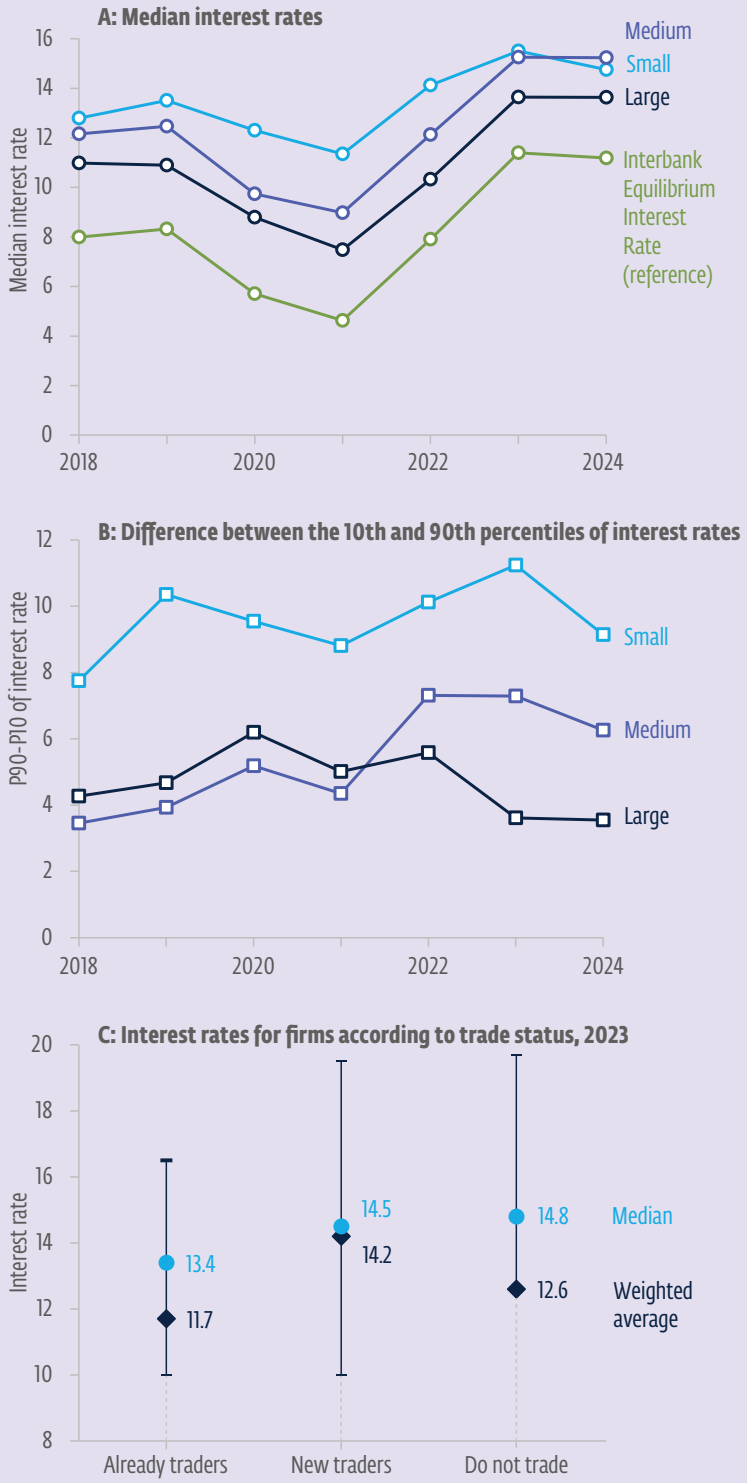
14 Using weighted averages across tenure categories.

15 This is consistent with the decrease documented by Gallardo Martínez (2023) in effective interest rates for new loans to micro and small enterprises, driven by reduced capital requirements for banks and regulated multiple-purpose financial institutions in Mexico (Sofomers) under a 2021 regulatory change that reduced the credit risk weighting. Since this change did not affect loans to medium and large enterprises, the narrower interest rate gap could be attributed to this policy shift.

FIGURE 1B.2

Interest Rates Vary by Firm Characteristics

Interest rates for firms engaged in trade, by firm size



Source: S&P Panjiva (2024) for trade aggregates by firm and The National Banking and Securities Commission (CNBV) for loans. **Note**: Small, medium and large firms in Mexico are classified according to the number of employees and sector of economic activity (see Table 1B.1). New traders are firms classified through time-series trade data as having no prior engagement in international trade. Specifically, for each year, new traders are those that have exhibited zero export and import activity in all preceding years within the sample.

In particular, as shown in **Figure 1B.2** panel C, in 2023, new traders exhibited considerably higher dispersion in rates, even compared to firms that did not participate in trade. Overall and unsurprisingly, new traders paid a median interest rate one percentage point higher than the interest charged to firms already engaged in trade. Weighted by the size of loans, the difference in average interest rate is significantly greater, at 2.50 percentage points.

Importers from China and exporters to the US rely less on local banks.

Two specific trade relationships merit further analysis due to their current significance and potential in shaping Mexico's total trade. The first is with the US, which, as shown in Chapter 1, accounts for more than 80 percent of Mexico's exports and over 40 percent of its imports. The second is with China, given that it is the second-largest source of Mexican imports. The dynamics of loans and trade exhibit a considerable degree of heterogeneity across these trade routes.

Importers from the US make greater use of bank loans compared to other firms operating along these trade routes (**Figure 1B.3**). In 2023, Mexican firms imported from China merchandise worth 12 times the

value of Mexico's exports to China, a ratio corresponding roughly to the size difference between loans to exporters and importers. The reverse was observed with the US: Mexican importers brought significantly less trade than exporters, yet accounted for nearly twice as much credit: $94 million for importers compared to $47 million for exporters.

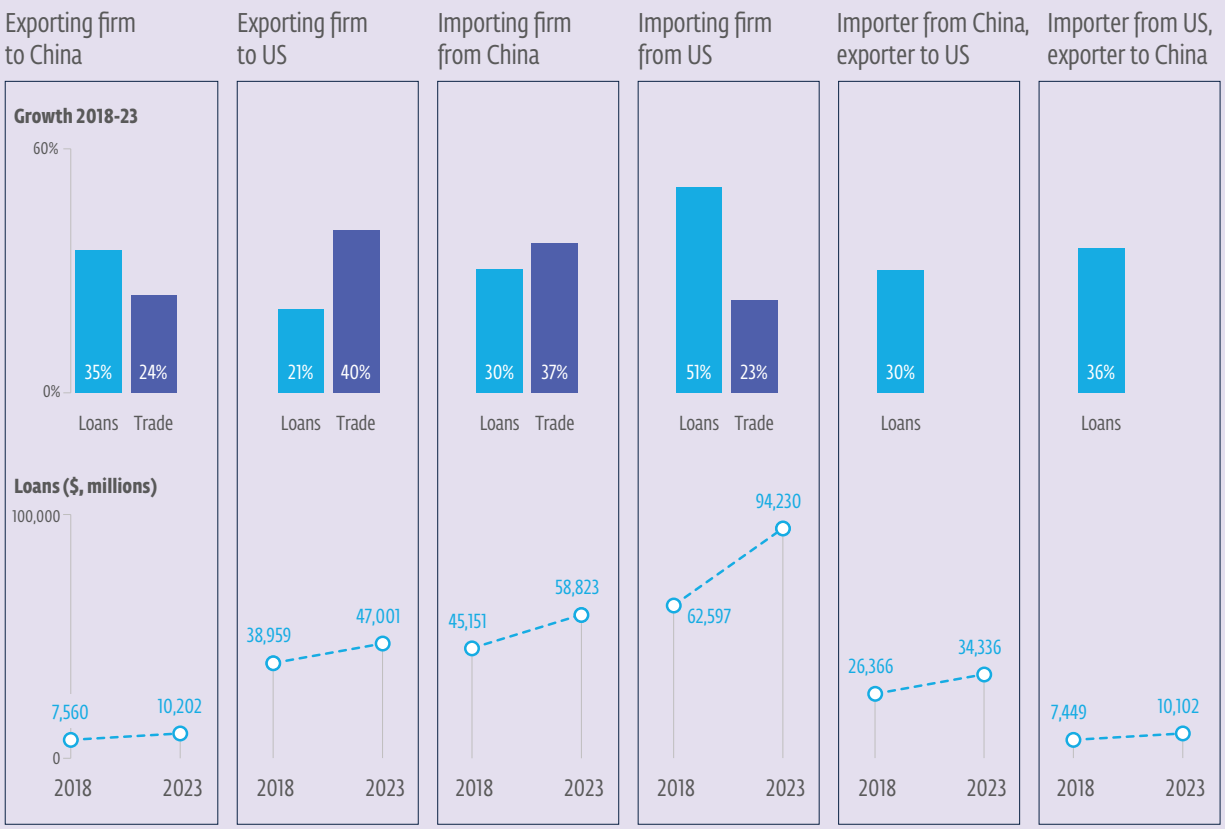
Moreover, the credit coverage of exporters to China and importers from the US by the local banks has been growing. Specifically, the growth of loans they account for over the six-year period from 2018 to 2023 exceeded the growth of trade in these routes. In the opposite direction of trade flows, however, trade values grew at a considerably higher rate than loans for firms importing from China and exporting in the US (Figure 1B.3 top panel).

Combined, these observations suggest that Mexican firms that import from China and export to the US rely less on the local banking system for finance; an observation that supports findings in the rest of the report. This pattern may be associated with the distinct characteristics of firms with these trade patterns (size, ownership, distinct value chain relationships and associated financing) or, potentially to some extent, a failure of the banking sector to adapt and engage with growing trade in this direction.

FIGURE 1B.3

Trade Grew at a Faster Pace Than Loans Among Firms Importing From China and Those Exporting to the US

Volume and growth of loans vs growth of trade by route



Source: S&P Panjiva (2024) for firm information on trade with China or US and The National Banking and Securities Commission (CNBV) for loans; UN Comtrade for trade with China, and US Bureau of Economic Analysis for trade with the US (2018–2023).

Photo: A closeup of Mexican pesos in a banknote counter © by Rochu_2008 via AdobeStock

2

Bank-Intermediated Trade *and* Supply Chain Finance

This chapter discusses results based primarily on a 2024 survey of 30 CAM-3 banks. The online bank survey was conducted by the International Finance Corporation (IFC), in collaboration with the World Trade Organization, with support from several local partners. The reference year for the reported trade and supply chain finance is 2023 (see Annex Box B1.1 for details about the bank survey, data limitations, and complementary data sources analyzed).

KEY FINDINGS

- Local bank-intermediated trade and supply chain finance assets for 2023 are estimated at $91.3 billion for Mexico, $5.3 billion for Guatemala, and $3 billion for Honduras. Mexican banks financed 8 percent of the country's total merchandise (imports and exports) trade, corresponding to 11 percent of total bank assets in the country. Guatemalan and Honduran banks financed, respectively, 12 percent and 10 percent of merchandise trade, accounting for 8 percent (Guatemala) and 9 percent (Honduras) of total bank assets. In contrast, previous WTO-IFC studies focusing on West Africa and Southeast Asia found that TSCF supported larger shares of trade there—21 percent in Nigeria and Viet Nam, for example. Limited TSCF access is a challenge, especially for smaller traders.
- Mexico records a high share of supply chain finance (SCF) in overall trade finance, while Honduras and Guatemala still rely heavily on traditional instruments such as letters of credit (LCs) and trade loans. For Mexico, related-party trade with the US can explain the limited TSCF use: 56 percent of the US' total trade with Mexico, and 65 percent of its imports from Mexico are between related parties that often use open account transactions.
- Payment and transaction risks persist in trade between unrelated parties. Even within related-party trade, payment lags and mismatches can create working capital shortfalls. Payment lags, mismatches, and risks can be mitigated by international SCF instruments, which account for 17 percent of all TSCF in Mexico, compared to just 4 percent in Guatemala and 1 percent in Honduras. The higher share of SCF in Mexico is associated with enabling regulations and digital innovations. Yet, SCF supported only 1 percent of Mexico's international trade in 2023.
- Trade loans account for 31 percent (Mexico), 40 percent (Honduras), and 66 percent (Guatemala) of total TSCF with a higher share for the latter two due to their having smaller SCF markets. LCs and other unfunded instruments account for 11 percent (Honduras), 40 percent (Mexico), and 45 percent (Guatemala) of TSCF. Secondary data show a high incidence of open account transactions in the three countries.
- Honduran banks report severe constraints associated with macroeconomic volatility, regulatory barriers, and lack of liquidity. Guatemalan banks identify shortage of low-cost funding, internal risk ratings, and collateral requirements as severe constraints. Limited institutional readiness and correspondent bank processing delays are the main constraints in Mexico. Previous evidence shows that the number of CAM-3 counterparties abroad declined between 2011 and 2022 due to rising compliance costs and stricter regulations.

- Relative to monetary policy rates, trade loans are more expensive in Guatemala and Honduras than in Mexico, which has a more mature banking sector. Yet, certain traders may pay up to 16 percent interest rates for trade loans in Mexico, substantially higher than in other emerging markets. LC fees are comparable across the CAM-3.
- All in all, there is significant potential to grow and diversify the currently concentrated market for TSCF. Although SCF has made a dent in Mexico, it is unclear the extent to which SCF is channeling financing to deeper tiers in the supply chain. International factoring accounts for a small fraction of the factoring flow in Mexico, indicating moderate use even among bigger traders. The SCF market in Guatemala and Honduras remains underdeveloped. Given its potential to support smaller suppliers by mitigating payment risks and enhancing working capital management, SCF has the potential to play a pivotal role in the region.

2.1 Trade Finance Markets

Based on the survey data, total bank-intermediated TSCF is estimated[16] at $3 billion for Honduras, $5.3 billion for Guatemala, and $91.3 billion for Mexico (**Table 2.1**). Expressing trade finance assets as a share of total merchandise trade helps illustrate how intensely trade finance is used, proxying the coverage of trade by bank-intermediated trade finance.[17] Estimated TSCF assets account for 12 percent (Guatemala), 10 percent (Honduras), and 8 percent (Mexico) of each country's total merchandise trade (imports and exports). In the case of Mexico, total merchandise trade amounts to $1.2 trillion (68 percent of GDP), for Guatemala $45 billion (44 percent of GDP), and for Honduras $29 billion (84 percent of GDP). CAM-3 banks supported trade with multiple trading partners, with the US, Europe, and China the banks' main partners for TSCF-supported trade.

Although Mexico's share of TSCF in total merchandise trade is 8 percent, its estimated trade finance as a share of total bank assets is about 11 percent, marginally higher than in Honduras (9 percent) and Guatemala (8 percent). Developments in the volume and composition of trade in the CAM-3 increased the demand for trade finance in general, as well as for specific financing instruments such as trade credit insurance, guarantees, and supply chain finance (Hernández

16 See Annex B2 for methodology used to estimate trade and supply chain finance assets for banks that did not participate in the IFC survey.

17 Given their short-term tenor, the ratio of assets (stock) against trade (flow) is empirically consistent. IFC Survey data shows that the average tenor ranges between five and seven months for Letters of Credit and between seven and eighteen months for trade loans depending on the country.

TABLE 2.1

Bank-Intermediated Trade and Supply Chain Finance

	Guatemala	Honduras	Mexico
Total number of banks	**18**	**17**	**57**
Number of survey respondents	**13**	**7**	**10**
Bank assets of respondents ($, billions)	$65	$15	$580
Respondents' assets (% of total bank assets in country)	98%	44%	68%
Respondents engaged in trade finance (% of respondents)	69%	100%	100%
Respondents' bank-intermediated trade and supply chain finance (TSCF) assets ($, billions)	$5.2	$1.5	$70.7
Estimated TSCF ($, billions)	$5.3	$3	$91.3
	[5.28; 5.39]	[2.5; 3.4]	[76.5; 106.1]
Estimated TSCF (% of total bank assets)	8%	9%	11%
	[7.9%; 8.1%]	[7%; 10%]	[9%;12%]
Total merchandise trade in 2023 ($, billions)	$44.5	$28.9	$1,214.5
Estimated TSCF (% of merchandise trade)	12%	10%	8%
	[11.9%; 12.1%]	[9%; 12%]	[6%; 9%]

Source: 2024 IFC survey except for merchandise trade which is obtained from the World Trade Organization (WTO, 2024).
Note: Data on total bank assets are obtained from publicly available bank annual reports and refer to bank assets as of December 2023. Confidence intervals (90 percent level) for estimated total TSCF assets and shares of TSCF of total merchandise trade and bank assets are shown in brackets.

2024). CAM-3 countries significantly differ from one another in the value of TSCF assets reported by surveyed banks, with such assets in Mexico amounting to approximately $71 billion, compared to $5.2 billion in Guatemala, and $1.5 billion in Honduras. This difference not only reflects Mexico's larger economy but also its more developed banking sector (see **Annex Box B1.2** for a fuller description of the CAM-3 banking sectors).

The relatively low share of merchandise trade in the CAM-3 supported by trade finance—just 8 percent in Mexico compared to 21 percent in Viet Nam (IFC and WTO 2023)—confirms previous findings of trade finance scarcity in Latin America relative to other emerging regions such as Asia and the Pacific (ALIDE 2018; Pérez-Caldentey et al. 2014). When trade finance is available, it tends to be offered by large foreign banks, particularly European banks that have traditionally been the

main sources of TSCF globally (Pérez-Caldentey et al. 2014). The depth of the banking system in the region—measured as the ratio of private sector credit to GDP—is shallower than that of other emerging regions (Jiménez and Manuelito 2011). Despite many of the countries in the region undertaking financial sector reforms in recent decades, both access to finance and financing costs, including for trade, remain a challenge, especially for micro, small, and medium-sized enterprises (Nassar, Martinez and Pineda 2022; Shibli 2024; Pérez-Elizundia, Delgado-Guzmán and Lampón 2020).

2.2 Bank-Intermediated Trade Finance and Open Accounts

The capacity of the local banking sector to offer and facilitate financing for cross-border trade depends both on how well developed the sector is and how integrated businesses are into regional or international trading networks. In this regard, we observe cross-country differences in the CAM-3 with Mexico standing out in several respects.

In Mexico, subsidiaries of international banks play a particularly prominent role, offering financing to large trading businesses, with the latter often being subsidiaries of multinational firms producing in Mexico for international markets. These international banks offer a wide spectrum of trade finance solutions, either locally or internationally financed. They remain major providers of trade finance even when they hold a small share of local assets as they can supply trade finance to local clients out of their international balance sheet. As they consider the growing role of Mexican-owned firms in international production and trade, Mexican-owned banks and financial institutions are expanding their international operations.

Overall, bank-intermediated trade finance markets are highly concentrated, especially in Guatemala and Honduras. In fact, although all but four of the thirty responding banks offered trade finance, the three largest (based on self-reported trade finance assets) accounted for about 70 percent (Mexico), 75 percent (Guatemala), and 80 percent (Honduras) of total TSCF reported in each country. This pattern aligns with previous findings in the literature, which show that trade finance concentration can be higher in smaller markets that may face higher market entry costs (Niepmann and Schmidt-Eisenlohr 2013).

Related-party trade—meaning trade among the subsidiaries of multinational enterprises—accounted for 56 percent of the total trade (imports and exports) between the US and Mexico in 2023 (**Annex Table B3.1**) (US Census Bureau 2024a). About 65 percent of the US $473 billion imports from Mexico and 39 percent of its $252 billion exports to Mexico are related-party in nature. The prominence of related-party trade, particularly on the import side, indicates a strong network of intra-firm trade or closely affiliated trading relationships. This could partially explain the relatively limited use of local bank-intermediated TSCF in Mexico compared to comparator countries like Viet Nam. Related-party trade is more likely to occur through open account arrangements, reflecting a reduced perception of transactional and payment risks, and because trade finance is often already provided by foreign banks. Evidence from the World Bank Enterprise Surveys shows that Mexican cross-border traders finance

a higher share of working capital through open accounts (suppliers' credit and customer advances) relative to their counterparts in comparator countries such as Colombia, Malaysia, Poland, Türkiye, and Viet Nam (**Annex Figure B3.1**).

In contrast, the relatively low share of related-party trade in US trade with Guatemala and Honduras (28 percent and 35 percent, respectively) indicates limited use of trade finance within closely affiliated parties, potentially leaving more space for TSCF through the local banking system. As highlighted in previous trade finance studies (IFC and WTO 2022; IFC and WTO 2023), there may be greater scope to expand domestically provided trade finance in countries and sectors with low levels of related-party trade, as foreign banks are less likely to offer this type of financing (see **Annex Box B1.2** for additional notes on the banking sector of the study countries).

2.3 Trade Finance Instruments Offered by Banks

The surveyed banks reported offering various trade finance instruments (**Figure 2.1**). LCs (commercial or standby), guarantees[18] and counter guarantees are widely offered, more so in Honduras, the poorest of the CAM-3. Guarantees are essential tools for mitigating counterparty risk in international trade, yet concessional access to them provided by government agencies is unavailable in Honduras and Guatemala.[19]

LCs are often required when one of the counterparties resides in a poorer economy, an economy with weaker institutions for contract enforcement, or one with a lower level of financial development (Dicaprio and Yao 2017). All surveyed banks in Honduras provide pre-export and post-shipment financing, equipment imports financing, and working capital loans. These instruments are offered by over two thirds of banks in Mexico and Guatemala.

All responding banks in Mexico provide SCF, a product offered by less than half the responding banks in Honduras (43 percent) and Guatemala (33 percent) (**Figure 2.1**). This can be partly explained by the large presence of international banks in Mexico, as discussed above, some of which are pioneers in the international SCF market. It can also be explained by regulatory developments, such as the requirement of electronic invoicing for large taxpayers in 2011 (extended to all businesses in 2014) and digital innovation, which together facilitated new SCF business models in Mexico (Bickers 2023). As shown later, SCF assets account for a relatively large share of Mexico's trade finance assets. According to interviews conducted with some Mexican banks during a scoping mission to Mexico City, pre-shipment financing, export factoring, and the extension of SCF solutions deeper into supply chains were identified as significant growth opportunities for Mexico.

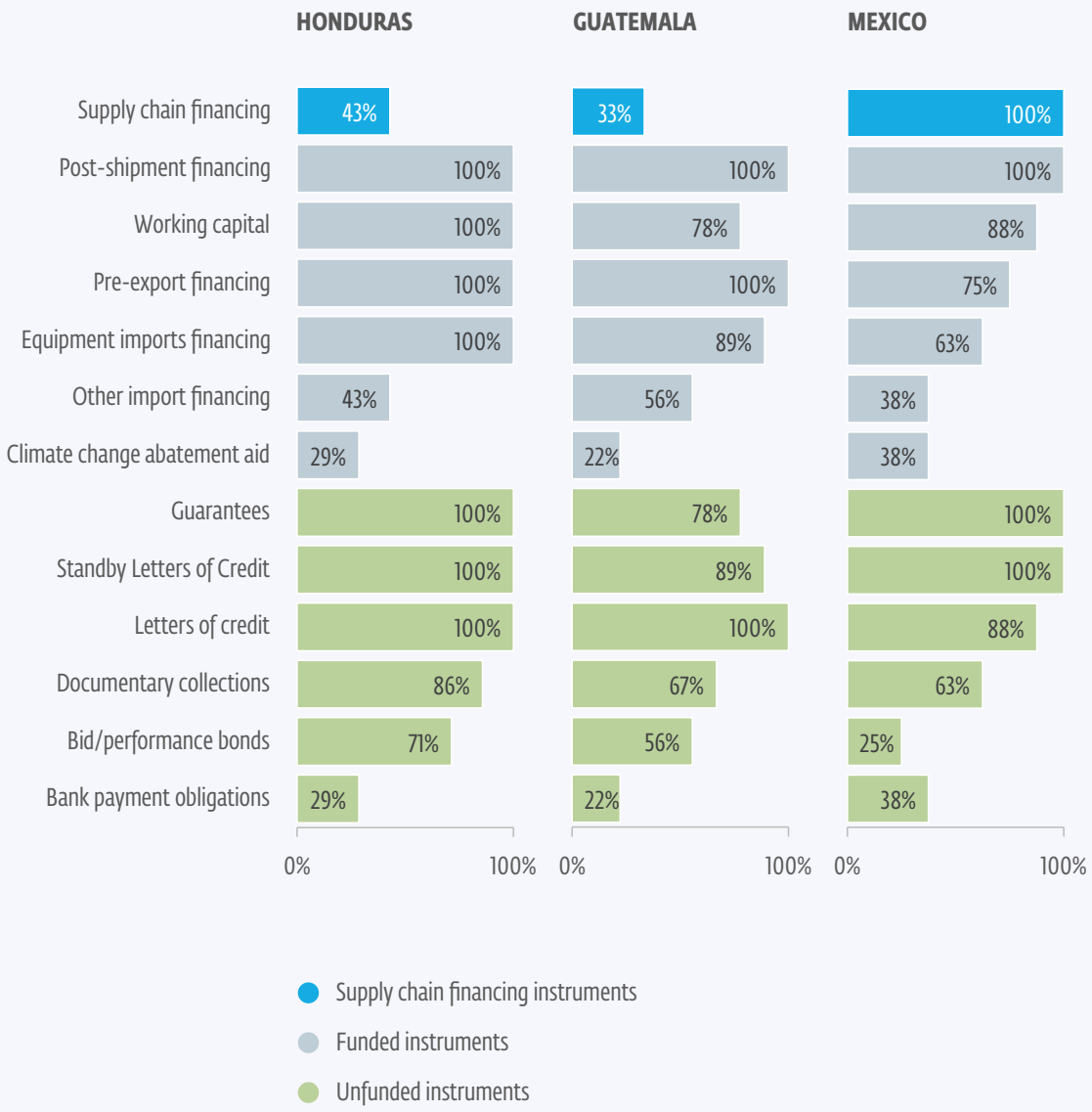
18 They can address risks related to defaults or unwillingness to pay by trade counterparties (OECD 2021) and can help mitigate information frictions (Agarwal et al. 2023). As a result, they are particularly important for smaller, liquidity-constrained traders such as small- and medium-sized enterprises.

19 Government agencies in Honduras and Guatemala provide advisory services to small- and medium-sized enterprises similar to some of the services that the Mexican development bank offers. Honduras has a guarantee program for various sectors but not yet for trade.

FIGURE 2.1

Supply Chain Finance Is Offered by All Mexican Banks but by Only Some in Guatemala and Honduras

Share of respondents offering instrument



Source: 2024 IFC survey.

2.4 Share of Trade Finance Assets by Instrument

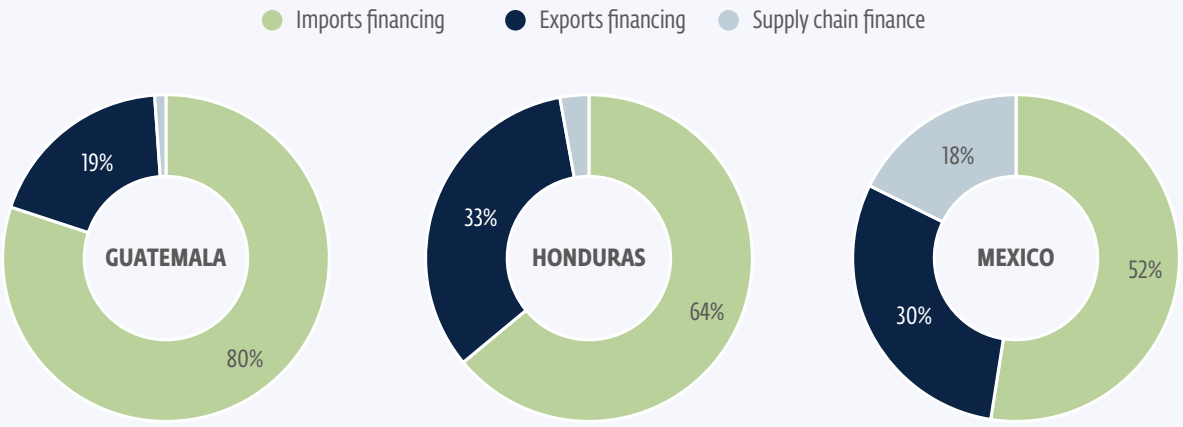
Of the total TSCF reported by the surveyed banks, most went on financing for imports: 80 percent in Guatemala, 64 percent in Honduras, and 52 percent in Mexico (**Figure 2.2**). SCF and export financing accounted for the rest of TSCF assets (20 percent in Guatemala, 36 percent in Honduras, and 48 percent in Mexico). SCF for international trade includes SCF financing provided to cross-border traders as well as payables/receivables finance, confirming, and reverse factoring provided to domestic suppliers when the anchor firm is engaged in international trade. Evidence from selected developing and emerging markets in Africa and Asia shows that the majority of banks' trade finance assets are unfunded, risk-mitigating products such as LCs and documentary collections (ADB 2022; IFC and WTO 2022; IFC and WTO 2023; AfDB and Afreximbank 2020).

In Mexico, widespread use of SCF effectively reduces reliance on LCs on the import side. This is because SCF typically involves open account transactions, where payment is made after the goods are shipped, rather than requiring the security and guarantees that LCs provide. A priori, SCF is offered both on the import and export sides. However, in the case of Mexico, it relates much more to the discounting of receivables by sellers (exporters) and financing received on the back of the supply chain "anchor" credit rating (Pérez-Elizundia et al. 2020). Although not absolute

FIGURE 2.2

Banks' Trade Finance Portfolios Are Weighted More Toward Importers Than Exporters

Trade finance instruments by trade activity



Average share of respondents' total trade and supply chain finance assets

Source: 2024 IFC survey.

substitutes, SCF on the export side can add to the spectrum of facilities available to exporters (in addition to export loans, against purpose orders, or equivalent export-related working capital lending).

TABLE 2.2

Trade Loans

	Guatemala	Honduras	Mexico
Total trade loans ($, billions)	$3.5	$0.6	$21.9
Total trade loans (% total trade finance assets)	66%	40%	31%

Source: 2024 IFC survey except for merchandise trade which is obtained from the World Trade Organization (WTO, 2024). **Note**: The share of trade loans is computed as the ratio of the total value of bank-declared trade loan assets to the total value of trade and supply chain finance assets of responding banks for each country.

Further breakdown of the composition of TSCF assets by trade activity and funding status is shown in **Annex Figure B3.2**. Funded instruments such as trade loans account for a higher share of TSCF assets than unfunded instruments such as LCs and documentary collection, especially for imports. In Honduras, for example, the share of funded instruments that supports imports is 36 percentage points higher than the share of unfunded instruments (45 percent versus 9 percent) and 24 percentage points higher for exports (26 percent versus 2 percent). The funded/unfunded difference for imports financing is less stark in Guatemala and Mexico (about 10 percentage points).

2.5 Trade Loans

Trade loans, both on the import and export side, account for two-thirds of TSCF assets reported by Guatemalan banks, compared to 31 percent and 40 percent reported in Mexico and Honduras, respectively (**Table 2.2**). The survey captured loans associated with the financing of imports and exports, including pre-export financing (working capital financing expenditures before export deliveries take place) and post-shipment financing. Trade loans can be secured (when borrowers pledge inventories, accounts receivables, or other collateral) or unsecured (when offered based on borrowers' creditworthiness, financial stability, and cash flow potential). They can be offered as part of other financing instruments such as LCs or as a standalone product. Structured trade finance products such as pre-export trade loans are among the mostly commonly used instruments in Latin America (Pianese 2022).

Traders across the developing world often meet their working capital needs through trade finance loans. Such loans offer more flexibility to traders with limited access to sophisticated trade finance products. They are particularly useful in the context of international trade due to the long time-lags between production, shipment, and receipt of payment, as well as the various risks associated with cross-border trade. Although flexible, working capital loans can be expensive (IFC 2022; IFC and WTO 2023).

2.6 Supply Chain Finance for International Trade

As noted above, all surveyed banks in Mexico and less than half of the banks in Guatemala and Honduras offered SCF. The latter accounts for about 17 percent of the TSCF assets of responding banks in Mexico, a significantly higher share than in Honduras (1 percent) and Guatemala (4 percent) (**Table 2.3**). The divide in SCF assets among banks that serve global customers and those that do not has been documented previously (ICC Banking Commission 2020). Mexico's SCF flows for international trade account for a little over half of trade loans reported in **Table 2.2**. Totaling $11.7 billion in 2023, these are the largest flows reported among the emerging markets surveyed in recent IFC surveys (IFC and WTO 2022; IFC and WTO 2023), reflecting the growing popularity of financial solutions such as "anchor-backed lending," international factoring, reverse factoring, loans against receivables, and others. The emergence of a whole ecosystem of firms producing for value chains has created a large pool of trade finance demand in Mexico beyond traditional instruments.

SCF solutions help leverage the creditworthiness of large and established buyers to provide financing to their suppliers. SCF mitigates payment risks and enhances access to working capital, which is especially important for micro, small, and medium-sized enterprises with potentially low credit ratings and limited integration into supply chains (ICC 2024; Saleem, Hommes and Sorokina 2017). SCF solutions are transaction-based and cover instruments such as invoice discounting (factoring and reverse factoring) and other working capital finance programs extended by financial institutions using invoices as collateral. For example, with pre-shipment SCF, financial institutions lend a percentage of the purchase order to meet suppliers' working capital requirements. SCF solutions promote trade by enabling an earlier payment for trading businesses. This can be particularly useful for smaller traders who often suffer from chronic late payments and for customer segments underserved by more traditional finance instruments such as bank loans (European Commission 2024). The importance of SCF for cross-border trade has grown significantly in recent years (Botta et al. 2020; ICC Banking Commission 2020). Recent trade disruptions, the push to enhance agility and resilience in supply chains in

TABLE 2.3

Supply Chain Finance Helps Smaller Traders Especially

	Guatemala	Honduras	Mexico
Supply chain finance (SCF) for international trade ($, billions)	$0.19	$0.015	$11.7
SCF for international trade (% of total trade finance assets)	4%	1%	17%

Source: 2024 IFC survey except for merchandise trade which is obtained from the World Trade Organization (WTO, 2024). **Note**: The share of trade loans is computed as the ratio of the total value of bank declared trade loan assets to the total value of trade and supply chain finance assets of responding banks for each country.

response, technological innovations such as digital invoicing and payments, and a greater emphasis on environmental, social, and governance requirements are among the enablers of SCF growth (Bickers 2023).

International SCF flows have grown against the backdrop of the development of a successful operational infrastructure for expanding local factoring and reverse factoring such as the reverse factoring model called Productive Chains Program created by Mexico's development bank NAFIN (**Box 2.1**). The uptick in factoring was facilitated by digital technology as Latin America, in general, and Mexico, in particular, have become extensive users of e-invoicing and e-billing, a movement mandated by tax and customs authorities since the 2010s. Increasingly, the use of e-invoicing is being consolidated across Latin America, creating a scalable market of recognizable, reliable, and formatted invoices based on which factoring markets for international trade can develop. In Mexico, for example, 6.7 billion e-invoices were generated between October 2020 and September 2021, of which 18.8 million were for imports (Calijuri, Corcuera-Santamaria and Zambrano 2022).

According to the International Factoring Association (FCI), factoring turnover in 2022 is estimated at around $35.7 billion in Mexico, significantly higher than the volumes in Honduras ($0.08 billion) and Guatemala ($0.31 billion)[20] (FCI 2024). For the CAM-3, domestic factoring accounted for the highest share of total factoring

20 Factoring turnover volumes reported in euros are converted into dollars using the average exchange rate for 2022 (1.0513 euros per dollar).

BOX 2.1

Factoring and Reverse Factoring Platforms in Mexico

In a context of limited access to credit and working capital, especially for smaller business in Mexico, the national development bank NAFIN created an online platform in 2001 for financial intermediaries to provide factoring services. This multi-funder platform facilitates factoring transactions between large buyers and their smaller and riskier suppliers. The platform expanded rapidly until the global financial crisis in 2007/08, helping small suppliers access early payments by leveraging the creditworthiness of their larger buyers. By 2009, it operated with 700 buyers, over 60 percent of whom were from the private sector. This accounted for 7 percent of the total factoring transactions in Mexico, benefiting close to 20,000 small and medium-sized enterprises across 300 supply chains. At that time, NAFIN helped broker over 8 million transactions, 98 percent of which involved micro, small, and medium-sized enterprises, averaging a rate of about 4,000 operations per day. The program is ongoing, with the most prominent Mexican financial institutions participating in and supporting it.

After the financial crisis, a new platform, the E-Factor Network, emerged as a significant player on the Mexican receivables finance and working capital market. This growing network includes over 20,000 companies, comprising buyers, suppliers, financial institutions, and technology partners. Here, users can choose to work with several potential funding partners or to use their own cash through a funding entity, eFactor Diez, resulting in lower costs and risks. An enabling legal and regulatory environment, and supporting electronic signature and security laws are among the factors crucial for the success of reverse factoring programs like NAFIN's (Aparicio, Carreras and Garone 2022; IFC 2021).

flows (98 percent, 94 percent, and 62 percent in Mexico, Honduras, and Guatemala, respectively). The same source shows a compound annual growth rate in total factoring flows of 20 percent in Honduras and 7 percent in Mexico from 2016–2022, and 1.6 percent in Guatemala from 2018–2022.

2.7 Trade Finance by Sector

All the surveyed banks in Honduras finance trade in the food products and beverages sector, motor vehicles and transport equipment, as well as the textiles sector (**Table 2.4**). This reflects the large share of exports comprised by garments (including sweaters and t-shirts), vegetables and animal products (coffee, bananas, crustaceans), and import goods such as yarn and fibres, and vehicles and vehicle parts. About 86 percent of Honduran banks reported financing trade in the agriculture, forestry and fishing, pharmaceuticals, transport, and Information Technology and Communications sectors. Honduras' energy, extractive, and construction industries can receive financing from a relatively small share of the banks.

All Guatemalan banks offer trade finance in the textile and plastic sectors (**Table 2.4**). A large share (86 percent) of Guatemalan banks also offers trade finance to companies in the pharmaceuticals, chemicals, food products and beverages, motor vehicles, and transport equipment sectors, as well as the electricity, gas, steam, and air sectors. About 57 percent of the responding banks reported financing trade in agriculture, forestry, and fishing. It is notable that few Guatemalan banks finance trade in extractive industries goods including mining (14 percent) or coke and refined petroleum products (43 percent), despite refined petroleum being the most imported good by value. Commodity trade finance has faced global challenges in recent years, such as price volatility, financial risks, the substantial documentation needed for each transaction, and complex regulatory compliance requirements (Trade Finance Global 2024).

About three quarters of responding Mexican banks offer bank-intermediated TSCF to the motor vehicles and transport equipment sector, whereas 86 percent and 100 percent of the banks in, respectively, Guatemala and Honduras financed this sector (**Table 2.4**). The automotive industry, as mentioned in Chapter 1, is one of the more integrated and dynamic sectors in Mexico, and exporters operating in it may benefit from intra-firm financing in addition to traditional bank-intermediated financing. For example, enterprise survey data for Mexico show that the share of working capital of traders in the manufacturing sector financed through supplier credit and advances from customers is almost twice the amount financed through bank loans: 26 percent versus 14 percent (World Bank 2024). Wholesale and retail trade, as well as trade in food products and beverages, is covered by trade finance offered by all surveyed Mexican banks. Trade finance instruments are generally offered across all sectors, with at least 50 percent of the surveyed banks in Mexico offering trade finance to all 18 industries covered in the survey.

2.8 Trade Finance by Customer Segment

Previous evidence from emerging markets shows that selected market segments such as small businesses and women-owned firms tend to have more difficulty accessing affordable finance

TABLE 2.4

Trade Finance Availability by Sector

Percentage of respondents mentioning each sector as recipient of bank trade finance

		Guatemala	Honduras	Mexico
Food and agriculture	Food products, beverages	86%	100%	100%
	Agriculture, forestry, fishing	57%	86%	63%
Manufacturing	Motor vehicles and transport equipment	86%	100%	75%
	Textiles	100%	100%	75%
	Plastics	100%	57%	75%
Technology and electronics	Computer, electronics	71%	43%	88%
	Information technology and communications	71%	86%	63%
Chemicals and healthcare	Pharmaceuticals	86%	86%	50%
	Chemicals	86%	57%	75%
Energy, extractive and construction industry	Metals	71%	43%	88%
	Coke and refined petroleum	43%	57%	50%
	Mining	14%	29%	63%
	Construction	57%	71%	75%
Trade, transport, and utilities	Wholesale and retail trade	71%	71%	100%
	Transport	71%	86%	88%
	Electricity, gas, steam, and air	86%	57%	75%

Source: 2024 IFC survey.

in general and trade finance in particular. Yet, detailed and systematic data about supply- and demand-side constraints to accessing trade finance are scarce (Cavoli, Christian, and Shrestha 2019). At its basic level, closing this data gap requires banks to more carefully categorize their clients, including by leadership (such as identifying women-owned/led firms) and by size of trading businesses. However, 50 percent of surveyed banks in Mexico and 57 percent in Honduras reported not keeping gender-disaggregated trade finance data (**Figure 2.3**). The remaining 43 percent of banks in Honduras and 38 percent in Mexico reported that they did provide trade finance to women-owned businesses. Additionally, about 25 percent of the banks in Mexico and 29 percent in Honduras reported not keeping track of how much of their trade finance supported SMEs. Among the Honduran banks, 29 percent did not offer trade finance to SMEs whereas 43 percent did, and

almost two thirds of surveyed banks in Mexico served SMEs.

Although survey data for Honduras and Mexico pinpointed gaps in the diversity of trade finance clients, this is less pronounced for Guatemala, with about 89 percent of banks providing trade finance to SMEs and 63 percent to women-owned firms. About 89 percent of responding Guatemalan banks reported offering trade finance to businesses with at least 50 percent foreign ownership, compared to just 50 percent in Honduras and 38 percent in Mexico. The lower share in Mexico confirms that foreign subsidiaries of multinational enterprises in Mexico likely benefit from open account transactions, in addition to bank-intermediated trade finance, to manage risk.

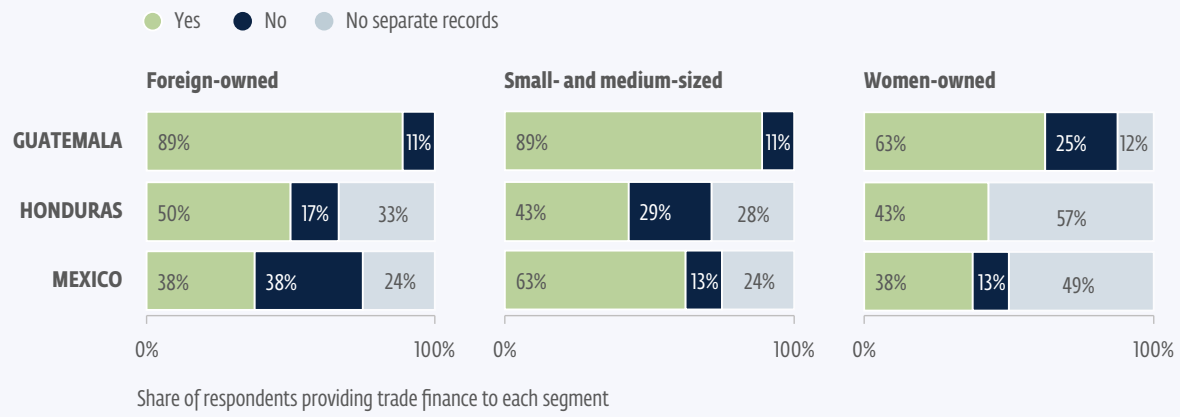
2.9 Constraints Facing Banks Providing Trade Finance

The survey also explored constraints on banks' ability to meet the trade finance needs of their customers, rating constraints from 1 (not a constraint) to 5 (top constraint) (**Table 2.5**). On average, banks in Honduras faced more severe constraints, with macroeconomic, regulatory, and liquidity constraints being the strongest stressors. Honduran banks highlighted that lack of sufficient US dollar/euro liquidity from their central bank and a limited availability of low-cost funding were hampering their ability to meet customers' trade finance needs. Uncertainty and liquidity shortages are particularly problematic for its smaller banks (**Annex Table B3.2**). Macroeconomic or political instability also played an important role for

FIGURE 2.3

Some Indications Women-Owned and Led Firms Are Underserved

Trade finance by customer segment



Source: 2024 IFC survey.

TABLE 2.5

Constraints Facing Banks to Meet Trade Finance Demand

Average by country, 1 = not a constraint; 5 = top constraint

		Guatemala	Honduras	Mexico
Macroeconomic and regulatory constraints	Macroeconomic/political instability	2.3	3.6	2
	Regulatory constraints	2.4	2.6	2.3
	Internal risk ratings / collateral requirements	2.6	2.9	2.4
Liquidity and funding challenges	Insufficient liquidity from financial institutions	1.9	1.8	1
	Insufficient liquidity from central bank	1.2	3.7	1
	Shortage of low-cost funding	2.9	3.4	1.9
	Inadequate capital to meet clients' needs	2	2.1	1.3
Correspondent Banking Relationship (CBR) issues	Insufficient tenors from CBR	2	2.7	1.6
	Delays in CBR processing	1.7	1.6	2.4
	Insufficient clearing accounts with CBR	1	1.2	1.6
	Stringent CBR requirements	2	1.4	2.3
	Insufficient line limits from CBR	2.3	1.4	1.6
Institutional and information gaps	Lack of information on market segments	1.8	1.9	1.7
	Limited institutional readiness	2.1	2	2.6

Source: 2024 IFC survey.

Honduran banks.[21] Guatemalan banks similarly identified the limited availability of low-cost funding as a major constraint but also cited internal risk ratings/collateral requirements as a severe constraint.

For Mexican banks, limited institutional readiness—banks not being able to offer new trade finance products entering the market—constituted the most severe constraint. They also stressed that correspondent bank processing delays, along with internal risk ratings and/or collateral requirements for their customers, prevented them from adequately serving their customers. Interviews with Mexican banks revealed a need for more financial education, especially targeting smaller

21 The bank survey did not request specifics, but several policy changes likely contributed to Honduran banks' perceptions about macroeconomic and political instability. Most notably, in April 2023, the central bank shifted from an interbank allocation system to an auction-based method for foreign exchange, aiming for fairer distribution and to prevent preferential US dollar assignments (Rodríguez 2024b). This shift has created economic uncertainty and a shortage of foreign currency, impacting firms (Rodríguez 2024a). Additionally, delays in obtaining external funding have reduced hard currency supply and international reserves (S&P Global Ratings 2024).

traders, to enhance awareness of available trade finance instruments.

More generally, the type and intensity of constraints facing banks may vary by bank characteristics such as size. Acknowledging the limitations of the survey's sample size, smaller banks tended to report slightly more severe constraints (**Annex Table B3.2**), with macroeconomic challenges in Honduras and correspondent banking relationships in Mexico and Guatemala appearing more constraining for them.

2.10 Rejection Rates for Trade and Supply Chain Finance Requests

The amount of rejected trade finance applications is estimated[22] at $0.57 billion for Guatemala (1.3 percent of merchandise trade), $0.3 billion for Honduras (0.9 percent of merchandise trade), and $13.2 billion for Mexico (1.1 percent of merchandise trade) (**Table 2.6**). These estimates should be treated as approximations. Some banks noted that their trade finance department provided financing to almost all clients that had been pre-screened by another department. This means that bank-declared rejection rates likely underestimate actual overall rejection rates in these countries. Compared to previous IFC-WTO studies, CAM-3 rejection rates are relatively low, resembling those in Viet Nam and Laos (12 percent and 10 percent, respectively). They are significantly lower than those in the Economic Community of West African States (ECOWAS) and in Cambodia (**Annex Figure B3.3**). The limitations with the rejection rates data are explored in **Annex Box B1.1**.

In addition, rejection rates often vary based on client characteristics, as documented in previous studies. For instance, data from the International Chamber of Commerce on trade credit and bank survey data from the Asian Development Bank both show higher rejection rates among micro, small, and medium-sized enterprises than larger companies (36 percent vs 21 percent, according to the International Chamber of Commerce, and 45 percent vs 31 percent, according to the Asian Development Bank) (ICC Banking Commission 2020; Beck et al. 2023). If there are systematic differences in bank rejection rates stemming from survey participation status and client size, using average rejection rates from responding banks to estimate the value of rejected applications could bias the trade finance gap estimate downwards. This could occur, for example, if smaller non-responding banks mostly financed smaller businesses, which traditionally face higher rejection rates.

Previous studies quantifying trade finance gaps based on trade finance rejection rates show varying shares of merchandise trade across different regions. For example, the Asian Development Bank estimated the global trade finance gap at $2.5 trillion in 2022, or 10 percent of global merchandise trade (Beck et al. 2023). Rejections of trade finance requests in Africa are estimated at $82 billion for 2019, accounting for 8 percent of total merchandise trade (African Development Bank and Afreximbank 2020). Similar estimates for select countries in the West Africa and Mekong regions range from 0.34 percent in Lao People's Democratic Republic and 14.3 percent in Ghana (**Annex Figure B3.3**).

22 See Annex B2 for methodological details.

TABLE 2.6

Bank-Intermediated Trade and Supply Chain Finance

	Guatemala	Honduras	Mexico
Overall average rejection rate of TSCF requests	**10%**	**8%**	**13%**
clients	*4%*	*n/a*	*12%*
non clients	*23%*	*n/a*	*15%*
Estimated TSCF ($, billions)	$5.3	$3.0	$91.3
Estimated TSCF rejections ($, billions)	$0.57	$0.3	$13.2
	[0.57; 0.58]	[0.2; 0.3]	[11.0; 15.3]
Estimated TSCF rejections (% of merchandise trade)	1.3%	0.9%	1.1%
	[1.3; 1.3]	[0.8; 1.0]	[0.9; 1.3]

Source: 2024 IFC survey except for merchandise trade which is obtained from the World Trade Organization (WTO, 2024).
Note: n/a means not available. We did not use bank-declared rejection rates for Honduras due to data quality and instead used previous estimates for Central and Latin America (Auboin and Dicaprio 2017). Confidence intervals (90 percent level) for estimated value of TSCF rejections and the share of rejections of total merchandise trade are shown in brackets.

2.11 Correspondent Banking Relationships and Their Constraints

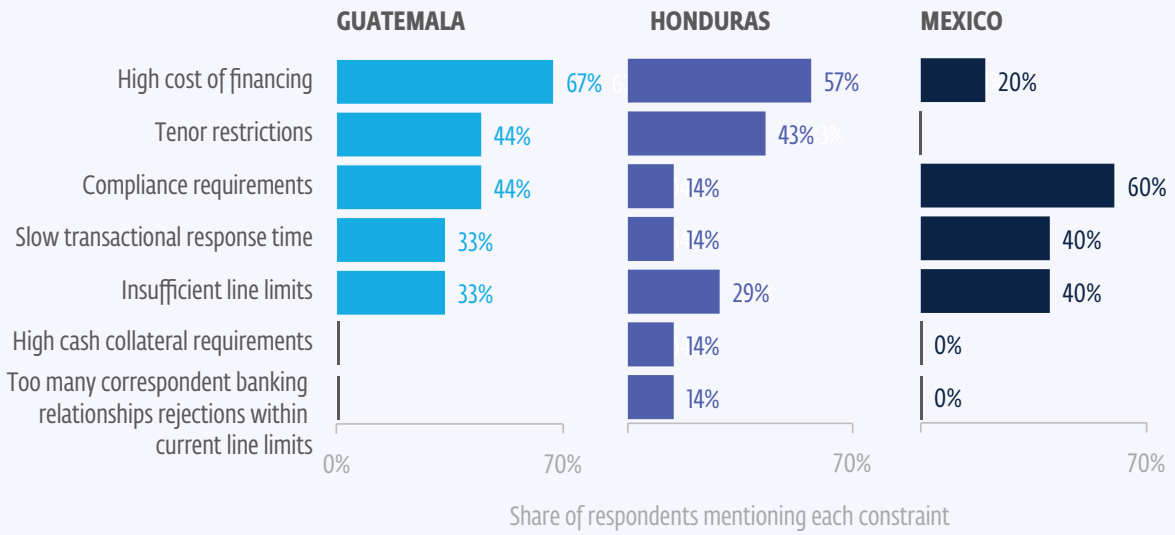
Correspondent Banking Relationships (CBRs) are arrangements wherein one bank (the correspondent) holds deposits and provides services such as international payments, foreign exchange, and trade finance on behalf of another bank (the respondent), typically located in another country (EBRD 2023). CBRs allow banks to engage in global financial markets without needing to establish a physical presence in a different jurisdiction. The correspondent bank facilitates trade by enabling payments between exporters and importers' local banks, which usually lack a direct account relationship. As such, CBRs form the backbone of the international payment system, with a significant proportion of payments to facilitate international trade flowing through the correspondent banks (ECB 2020; Rice et al. 2020).

A higher share of Guatemalan banks (especially the smaller ones) reported facing more CBR-related stressors than banks in Mexico and Honduras (**Figure 2.4**). The high cost of funds is the most common CBR-related constraint reported in Guatemala and Honduras, followed by tenor restrictions, and, in the case of Guatemala, requirements to comply with anti-money laundering, terrorism financing, and know-your-

FIGURE 2.4

In Guatemala, Honduras, High Costs Hamper Forging of Cross-Border Ties Between Banks

Correspondent banking relationship-related constraints



Source: 2024 IFC survey.

client regulations. For responding Mexican banks, such compliance requirements are the most common CBR-related stressor. CBRs remain a bottleneck for smaller banks in all three countries (**Annex Table B3.2**).

The high cost of regulatory compliance and concerns about possible sanctions—for example, for not complying with money laundering or terrorism financing regulations—can force banks to terminate or restrict CBRs, thereby increasing the cost and availability of cross-border trade finance. More specifically, high compliance costs and stricter regulations have caused banks to reconsider CBR strategies, as these increased costs and fine risks require higher revenue to meet required returns in this typically low-margin business line. Markets that do not provide sufficient volume are at risk of CBR reduction, which is detrimental especially to smaller local and regional banks that are already less integrated into global financial markets.

Despite their importance for global trade flows, the number of CBRs has decreased globally since 2012 even as the volume and value of cross-border transactions increased during the same period (BIS 2024a). Although the cumulative

volume of transactions[23] increased substantially for the countries studied between 2011 and 2022 (by 84 percent for Guatemala, 113 percent for Honduras, and 59 percent for Mexico), the number of counterparties abroad fell by 15 percent in Guatemala, 33 percent in Honduras, and 24 percent in Mexico during the same period [ibid]. A higher concentration of payment flows among a smaller number of correspondents can increase the vulnerability of counterparties to disruptions, limit financial inclusion and intermediation, and ultimately hinder the growth prospects of affected countries (IMF 2017).

According to one estimate, the decrease in the number of CBRs due to anti-money laundering and counter-terrorism financing regulations may have reduced Mexican exports to the US by about 2 percent between 2011 and 2021, compared to neighboring countries with less CBR loss (Shapiro and Yoder 2022). Some of the surveyed subsidiaries in Mexico noted that they exclusively relied on CBRs within their corporate network, which might pose other challenges such as limited access to broader CBR services and dependency on the parent network.

Various efforts are underway to address CBR-related stressors. For example, in Mexico, regulators have implemented a centralized cross-border transaction database that consolidates transactional and customer due diligence data, as well as a database of know-your-customer information (Banco de México 2017). Efforts are also underway to develop the "next-generation" correspondent banking model, leveraging efficiency-enhancing technologies to set the foundation for a financial market infrastructure that can facilitate cross-border payments through tokenization[24] and smart contracts (Garratt, Wilkens and Shin 2024). Banco de México is among the seven central banks participating in a BIS-led Project Agorá, an initiative to test the desirability, feasibility, and viability of the multi-currency unified ledger for wholesale cross-border payments (BIS 2024b).

2.12 The Cost of Trade Finance

The range for LC confirmation and issuance fees charged by most of the responding banks in the study countries is comparable, at between 1 percent and 3 percent (**Figure 2.5**). More specifically, Honduran banks show minimal differences between confirmation and issuance fees, whereas in Guatemala and Mexico, confirmation fees are generally slightly lower than issuance fees. The price distributions (as indicated by the size of the boxes) in Honduras and Guatemala are narrow, reflecting consistent pricing among banks for both services. In contrast, Mexico's prices exhibit a slightly wider distribution, suggesting greater variability in pricing for both LC issuance and confirmation. This variability may

23 This refers to the total number of transactions sent via SWIFT message type MT 103 and MT 202, excluding message type MT 202 COV. SWIFT (Society for Worldwide Interbank Financial Telecommunication) is a widely used messaging platform through which a significant portion of global cross-border financial transactions are conducted.

24 Tokenization refers to the automation of transactions involving real or financial assets by recording asset claims onto a common programmable ledger (Aldasoro et al. 2023). Unlike a traditional ledger with separate components for a database of assets recordings and an application governing assets recording and their updating, a programmable ledger embeds self-executing codes that activate when a pre-specified event occurs (smart contract) and combines different smart contracts in a single system (composability). Transactions on a programmable ledger are based on tradable digital assets (tokens) that comply with predefined standards and rules of smart contracts.

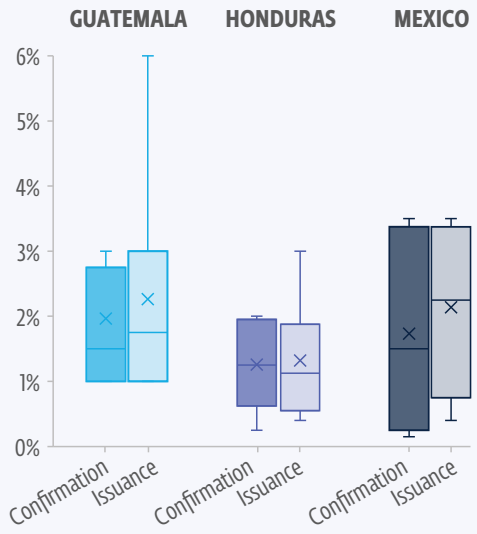
reflect more diverse market conditions or flexible pricing strategies adopted by Mexican banks.

As shown in **Table 2.2**, trade loans account for a significant share of TSCF assets, especially in Guatemala and Honduras. The cost of trade (export and import) loans includes interest on advances taken out to facilitate international trade, along with various fees, including bank processing fees, shipping fees, and potentially insurance premiums.

FIGURE 2.5

On Average, Bank Fees for Letters of Credit Are Lowest in Honduras

Letters of credit fees



Source: 2024 IFC survey. **Note**: Figure shows the distribution of bank-declared fees (both minimum and maximum) for letters of credit. Cross marks (with value labels) and horizontal lines inside the boxes show averages and medians, respectively. The bottom and top edges of each box indicate the 25th percentile (p) and 75th p, respectively. The bottom "whisker" below the boxes equals the 25th p minus 1.5 times the interquartile range (IQR), the difference between the 75th and 25th p. The upper "whisker" above the boxes equals the 75th p plus 1.5 times the IQR. LC fees outside the whiskers are not shown.

These premiums, in turn, can depend on factors such as the political and macroeconomic risks of trading countries, the cost of funds, and transaction risk. These costs cover the expense of bridging the gap in time between shipping goods and receiving payment for them.

Trade loans in Mexico are more expensive than in Guatemala and Honduras, with an average interest rate of 13 percent in Mexico compared to 8 percent in the other two (**Figure 2.6**). This nominal difference is due to Mexico's higher monetary policy rate.[25] However, the spread—the difference between the interest rate on trade loans and the monetary policy rate—is, as expected, smaller in Mexico than in the other two, meaning Mexican banks charge a relatively lower markup over the policy rate. A lower spread in Mexico may be attributed to its more mature and integrated financial sector with several subsidiaries of large global banks competing for clients. Previous evidence suggests that interest rate spreads are shaped by a variety of factors including administrative costs, credit risk, and inflation—factors that generally widen the spread—and liquidity and regulatory efficiency, which generally narrow the spread (Guamán et al. 2022). The higher spread in Guatemala and Honduras is in line with

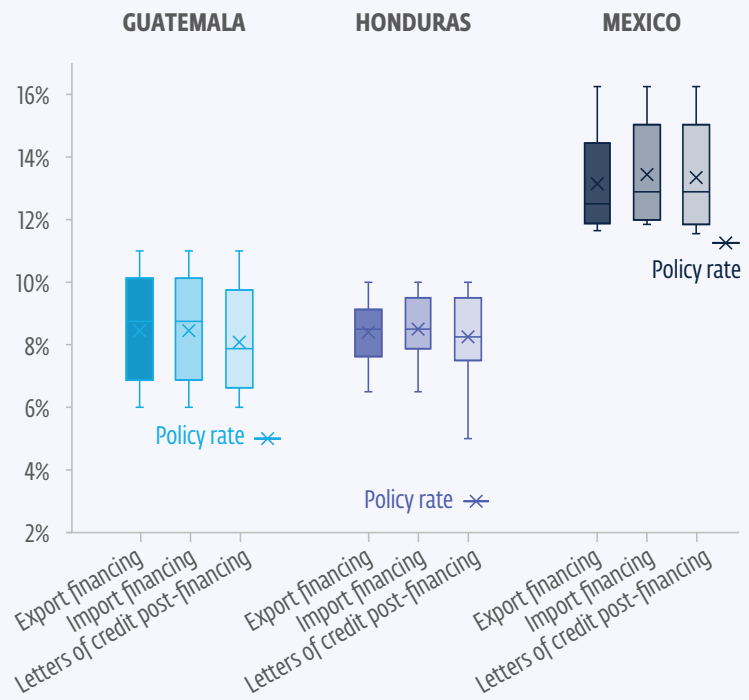
25 The central bank of Mexico (Banco de México) increased its policy rate from 5.5 percent to 10.5 percent in December 2022 faced with surging inflation due to global value chain disruptions. In March 2023, Banco de México further raised the policy rate to 11.25 percent to stabilize prices (Banco de México, 2023) which prevailed until February 2024 when the central bank began to gradually ease the policy rate as inflation continued to slow. The central bank of Guatemala (Banco de Guatemala) began 2022 with a policy rate of 1.75 percent but incrementally raised it, reaching 4.25 percent by December 2022. This rate was further raised to 5 percent by mid-2023 due to inflation and uncertainties (Banco de Guatemala 2024). The central bank of Honduras maintained a policy rate of 3 percent throughout 2023 but raised it in 2024 by one percentage point in response to inflationary pressures (Banco Central De Honduras 2024).

what is observed in Central America and the Caribbean generally, where larger spreads are driven by market power, operating costs, elevated credit risk, weaker macroeconomic conditions, and less developed institutional frameworks (Guamán et al. 2022; Bravo et al. 2021). Improvements in market conditions, tackling entry barriers to the banking sector (including for foreign banks), and enhancing financial transparency could strengthen the performance of the banking sector and reduce interest rate spreads (Birchwood, Brei and Noel 2017).

FIGURE 2.6

Trade Loans Priciest in Mexico Due to Country's Higher Interest Rates

The cost of trade loans and letters of credit post-financing



Source: 2024 IFC survey. Monetary policy rates (2023) were retrieved from central banks' websites: Banco de México, Banco de Guatemala, and Banco Central de Honduras. **Note**: Figure shows the distribution of bank-declared costs (both minimum and maximum) for trade loans and letters of credit post-financing, along with the policy rate. See Figure 2.5 for description of boxes and whiskers. Trade loans costs outside the whiskers are not shown.

LC post-financing is a financial instrument in which the bank in the exporter's country issues a medium-term loan (up to two years) to the importer's bank issuing the LC. The cost of this instrument averages around 8 percent in Honduras and Guatemala but is noticeably higher in Mexico at around 13 percent. While differences in monetary policy rates partly explain this gap, LC post-financing fees, like trade loan costs, are also influenced by factors such as credit risk, market conditions, and institutional frameworks, as discussed above.

The spread also varies based on the characteristics of banks' clients. Some banks offer competitive market rates, whereas others apply international rates, which are generally lower than domestic rates (Pérez-Caldentey et al. 2014). For example, although not directly related to trade loans, evidence from Mexico indicates that loans extended to non-financial firms by banks with greater market power are approximately 11 percent more expensive than the average interest rate, with more pronounced spreads observed for small and micro-enterprises, as well as for firms located in the south of Mexico (Cañón, Cortés and Guerrero 2022).

Photo: Modern highway against silhouette of mountains in Guatemala © by Byron Ortiz via Shutterstock

3

The Impact *of* Closing *the* Trade Finance Gap

Following the previous chapter's analysis of current trade finance markets, this chapter turns to a counterfactual analysis of the potential to expand the amount of trade if the coverage of trade by trade and supply chain finance rose, and the costs of trade finance instruments fell. The analysis is conducted with the WTO Global Trade Model, a computable general equilibrium model for analyzing economic interactions between countries.[26]

26 The model is calibrated to data on trade and production from the Global Trade Analysis Project (GTAP) Data Base, Version 11c (2017). A description of the model and a detailed outline of the way trade finance costs are modeled as part of trade costs are provided in Annex C.

KEY FINDINGS

- The WTO's Global Trade Model is employed to project the impact of an expansion of the coverage of merchandise trade by bank-intermediated trade and supply chain finance, financed locally and internationally, combined with a reduction in the costs of trade finance instruments. A doubling of the coverage of trade and supply chain finance and a reduction in financing costs of export and import loans and letter of credit (LC) fees could raise imports by 5.7 percent in Guatemala, 7.4 percent in Honduras, and 6.7 percent in Mexico, and raise exports by 7.8 percent, 8.9 percent, and 7.4 percent, respectively. This corresponds to an increase in the annual volume of merchandise trade of $2.8 billion in Guatemala, $2.3 billion in Honduras, and $85.1 billion in Mexico.
- A higher coverage of local trade finance accounts for most to the projected trade increase, followed by the reduction in the financing costs of export and import loans. The reduction of fees for LCs would play a marginal role.
- The sectors and trading partners delivering the largest monetary contribution to the projected increase in trade vary across countries. For Guatemala and Honduras, the most important sectors on the export side are textiles, wearing apparel and leather to North America (Canada and the US), whereas for Mexico it is transport equipment, electronic equipment, and machinery.
- On the import side, Guatemala is projected to expand trade in chemicals and other goods most from a variety of trading partners (Central America, East Asia, Europe, and North America), whereas for Honduras the largest contribution comes from textiles, wearing apparel and leather, and other goods imported from Central America and North America. For Mexico, the most important sectors are transport equipment, other equipment (electronic equipment and machinery), chemicals and other goods, imported from North America and to a lesser extent from East Asia and Europe.

Trade flows are determined by the costs of international trade as well as demand and supply factors. Trade costs comprise a range of transaction costs of which the costs of financing international trade are an important part. Three types of costs relate to the need to finance international trade transactions: (1) costs associated with the transaction risk that the counterparty either will not pay for, or will not deliver, the goods; (2) the financial costs to bridge the gap in time when goods are in transit; and (3) the costs of using instruments to manage transaction risks such as LC fees.

Before outlining the scenarios and presenting the simulation results, it is important to briefly discuss how trade is modeled in this chapter. In line with much of the quantitative trade literature, the simulation uses Armington preferences—a framework that allows each country to import goods from all its trading partners. Under this approach, firms are not explicitly modeled, meaning the analysis does not differentiate between extending trade finance to firms already receiving it (intensive margin) and increasing the number of firms receiving trade finance (extensive margin). However, distinguishing between these margins is not essential for simulating reliable counterfactuals. In fact, the effects of trade cost experiments are equivalent in both the Armington and Eaton-Kortum models, with the latter accounting for adjustments along both the intensive (amount traded) and extensive (number of firms trading) margins (Arkolakis et al. 2012).

In more specialized models, such as the Melitz firm heterogeneity model, the impact of counterfactual reductions in trade costs tends to be larger, though the additional effects are often limited in many settings (Costinot and Rodríguez-Clare 2014). Due to the lack of data on the distribution of trade costs related to financing international transactions, particularly in terms of the distribution between variable and fixed costs, and the fact that the differences in projected effects between the different models tend to be small, the Armington framework is employed in this study.

Since the model is calibrated to average trade responses to changes in trade costs based on globally estimated trade elasticities, it does not capture the potential difficulties of entering new markets and the capabilities and capacity of firms to expand trade which might be relevant for Central American countries, which are smaller.

3.1 Instruments for Financing International Trade and Their Costs

Five modes of payment for financing international trade, which differ in transaction risk and financial costs, are incorporated in the model:

- Cash in advance;
- Export and import loans;
- Supply chain finance (SCF);
- Borrowed working capital used for the purpose of exports (pre-shipment); and
- Documentary credit, covering mainly LCs.

For instance, when using cash in advance, the importer pays for goods upfront, effectively pre-financing the exporter's cash flow. In doing so, the importer assumes the risk of not receiving the goods on time, or at all, without any collateral to mitigate this risk. As a result, cash in advance exposes the importer to the highest transaction

risk compared to other financing options. Additionally, it carries a significant financial cost, as the importer's own cash flow is tied up, with the potential for complete loss if the exporter fails to deliver.

Under the terms of LCs, most of the transaction risk is shifted to the bank, and the importer does not use any funds until the merchandise is received. However, the exporter must pre-finance the production and shipment of the goods until payment is received, even though the payment is guaranteed by the LC, conditional on all terms of the transaction being met.

SCF is generally linked to open account transactions, whereby sellers (exporters) deliver the merchandise prior to payment by the buyer. To mitigate the payment risk, SCF techniques such as factoring allow the exporter to receive payment immediately and without further risk at a discount, which can be interpreted as a fee for avoiding further transaction risk. Hence, the transaction risk would be considerably reduced for both parties as the performance (delivery) risk is reduced under open account for the importer, and the exporter would incur no further transaction risk after accepting the discount. The transactional risk, in a such a case, would not be very different than the transactional risk with an LC. Other SCF techniques, such as payable finance or anchor-based finance, could further reduce the payment constraints on the importer, although the paucity of data collected in the survey did not allow for proper consideration of SCF on the import side, with most of the survey data being on the export side.

In the model, two trade costs related to financing international transactions—transaction risk and financial costs—are calculated for each of the five financing modes. The total trade costs associated with financing are determined as a value-weighted average of the costs from each of the five financing modes, with the value weights based on the survey and information from other sources as further detailed below. These trade costs are included as part of three broader categories of trade costs in the model: export taxes, import taxes, and iceberg trade costs.[27]

The financial costs, including LC fees, are incorporated into export and import taxes, reflecting the oligopolistic nature of the banking sector, which generates profits. As a result, these financial costs can be viewed as a tax imposed by the financial sector on the broader economy. Costs arising from risk aversion are modeled as iceberg trade costs, as they represent a direct loss of resources, as further explained in Annex C. The costs associated with various trade finance instruments, the proportion of trade covered by trade finance, and the significance of each instrument are based on data from surveys conducted in Guatemala, Honduras, and Mexico, as well as information from international institutions and academic literature for other regions.[28]

27 Iceberg-type trade costs refer to additional resources that must be spent to ship a good internationally. More specifically, for one unit of a good to arrive in the country of destination, more than one unit needs to be shipped out from the country of origin with a share "melting away" during transportation.

28 In the framework, the financial costs associated with various instruments for financing international trade transactions differ based on survey data and other lending rate information. As a result, there is no perfect arbitrage between the instruments that would equalize financing costs. This reflects variations in the level of risk, which are influenced by factors such as differences in borrowing constraints, the availability of collateral, and the extent to which payments are guaranteed by third parties (e.g., a bank in the case of LCs).

Sectoral variation in trade finance coverage is introduced based on the proportion of exports and imports handled by foreign-owned firms and the share of related-party trade.[29] Although the academic literature explores sectoral variation in trade finance coverage, this information is too limited to be employed in this study. For example, Crozet et al. (2022) estimate LC intensity varying by HS4 (product classification) line. However, upon aggregating the LC intensity at the HS4 level to the sectoral level employed in the current study, there is no significant variation, except for differences between the oil and other sectors. Furthermore, it is not clear how LC intensity can be mapped into variation in trade finance shares. Specifically, analysis of firm-level data reported in IFC and WTO (2023) suggests that foreign firms in Viet Nam are half as likely to use domestic trade finance. Additionally, the share of domestic trade finance varies across sectors, depending on the sector's share of related-party trade. For instance, the share of domestic trade finance is relatively low for "computers and electronic equipment" as both foreign ownership and related-party trade are high in this sector.

Finally, the modeling assumes that in sectors with a high share of related-party trade, there is limited potential to increase the share of domestically provided trade finance, as trade finance is already supplied by foreign banks. Further details on the model's technical specification are provided in Annex C.

3.2 Four Counterfactual Scenarios

The survey shows that the proportion of trade covered by trade finance from domestic institutions is relatively low—12 percent for Guatemala, 10.3 percent for Honduras, and 7.5 percent for Mexico. Given these low coverage rates and the high costs of trade finance, the following four counterfactual scenarios examine the potential impact on trade patterns of increasing trade finance coverage and reducing its costs.

SCENARIO 1: The coverage of trade by local trade finance is doubled

The share of local trade finance is doubled in this scenario from 12 percent, 10.3 percent, and 7.5 percent for, respectively, Guatemala, Honduras, and Mexico to 24 percent, 20.6 percent, and 15 percent. Due to the lack of comprehensive data on bank rejection rates for trade finance requests, which could inform the counterfactual, a doubling of the share of trade covered by local trade finance is modeled. To achieve this change in the model, the overall share of trade finance is increased until the trade-weighted average of trade (exports plus imports) covered by trade finance instruments doubles.[30] As the share of trade finance instruments increases, the shares of other instruments (such as cash in advance and borrowed working capital) decrease proportionally.[31] The shares of the different instruments on the import

29 Sources include a WTO Data Base on foreign affiliate sales, which is based on a variety of sources such as Eurostat's FATS, OECD's AMNE, and national sources, merged with the GTAP Data Base to calculate shares and the related-party database for US trade with Guatemala, Honduras, and Mexico, which is used as a proxy for trade with all trading partners.

30 Since there is variation in the share of trade finance provided by foreign banks across sectors based on the share of foreign-owned firms, the extension of trade finance provided by domestic banks varies across sectors.

31 For some sector importer-exporter combinations, this would imply that shares would become negative. Therefore, the shares of domestic and foreign trade finance are reduced to make sure that shares always sum to 1.

and export side are increased such that trade cost changes are approximately equal on the import and export side.[32] In this scenario, the share of trade covered by trade finance rises across all sectors and trading partners. The costs of financing international trade transactions influence three types of trade costs—import taxes, export taxes, and iceberg trade costs—all of which are addressed in Scenarios 1 and 2, as both financing costs and the costs associated with risk decrease when trade finance coverage expands.

Estimates on bank-intermediated trade finance made by the Bank for International Settlements (BIS) for 2011 amounted to 36–44 percent of world trade. Yet, these estimates did not account for credit insurance flows covering bank finance, nor for SCF, for example. Therefore, the global share of trade finance coverage is likely to be higher, at least 50 or 60 percent (BIS, 2014). Hence, the trade finance coverage increase modeled would be relatively modest in this case.

SCENARIO 2: Letters of credit fees fall

The fees for LCs are decreased to levels prevailing in China based on information collected by IFC staff. This serves as a benchmark for the developing countries in the study. The change in LC fees only reduces import and export taxes, since LC fees can be seen as a transfer to the financial sector.

SCENARIO 3: Costs of trade finance instruments are reduced

The costs of trade finance instruments, including import and export loans and loans used to pre-finance exports under LCs, are lowered by aligning them with the global average margin between trade finance costs and interbank rates. Specifically, the gap between trade finance costs and interbank rates is reduced to 50 percent of the current global average employing data on interbank rates from official sources and on trade finance costs from the academic literature. This adjustment primarily leads to a reduction in import and export taxes.

SCENARIO 4: Combining Scenarios 1–3

The shocks in Scenarios 1–3 are combined to generate one set of projected trade cost reductions.[33]

32 Within the instruments on the import side and the export side the increases are in proportion to the baseline shares of the different instruments. Annex C provides further details on the changes in the shares of trade financed by trade finance in the counterfactual.

33 In the model firms are not explicitly modeled, so the analysis does not distinguish between extending trade finance for firms already receiving trade finance (intensive margin) and more firms receiving trade finance (extensive margin).

3.3 Trade Costs Related to Trade Finance and Projected Trade Cost Reductions

The four counterfactual scenarios in the model result in reductions in trade costs, both when the share of trade finance increases and when the financial costs of trade loans and LC fees are reduced. For instance, increasing the share of trade covered by trade finance through greater use of LCs, more export and import loans, and SCF, lowers overall trade costs for two main reasons. First, the financial costs of these instruments are lower compared to the opportunity cost of using cash in advance or limited internal (non-borrowed) working capital. Second, transaction risk is reduced in the case of LCs or SCF as the bank assumes the risk in exchange for a fee. Respectively, the provider of SCF takes over the risk from the exporter applying a discount rate.

In the counterfactual scenario, LC fees are reduced to align with the developing country benchmark (China). Opening fees for LCs cover the operational costs of processing these instruments, while the typically higher confirmation fees are linked to the transaction payment risks faced by importers. In Scenario 3, both opening and confirmation fees are lowered. However, firms in Guatemala, Honduras, and Mexico are assumed to only incur confirmation fees for exports when trading with countries which are deemed riskier than these two nations. As a result, the projected reduction in trade costs is more significant for imports into Guatemala, Honduras, and Mexico than for exports.

The projected changes in the costs of import and export loans are based on reducing the financial premium on trade finance over the interbank rate by 50 percent compared to the global average. While the higher premiums in Guatemala, Honduras, and Mexico may be influenced by factors such as perceived or actual country risk, they may also reflect a constrained trade finance market with limited supply, exacerbated by high interest rates. As a result, these premiums include an element of "rent," where loan rates are higher than they would be if there was better access to trade finance.

Before looking at the projected changes in trade costs, **Figure 3.1** displays the baseline level of trade costs related to trade finance and as a comparison the level of total trade costs (in ad valorem equivalent) reported in Chapter 1 for the three countries studied. The figure makes clear that trade finance-related trade costs comprise about 15 percent to 20 percent of total trade costs in the model for the three economies. The variation in the size of trade costs reflects variation in the different components of the costs of trade finance.

Figure 3.2 illustrates the anticipated reductions in trade costs for both imports and exports in Guatemala, Honduras, and Mexico across the four scenarios, highlighting three main insights.[34]

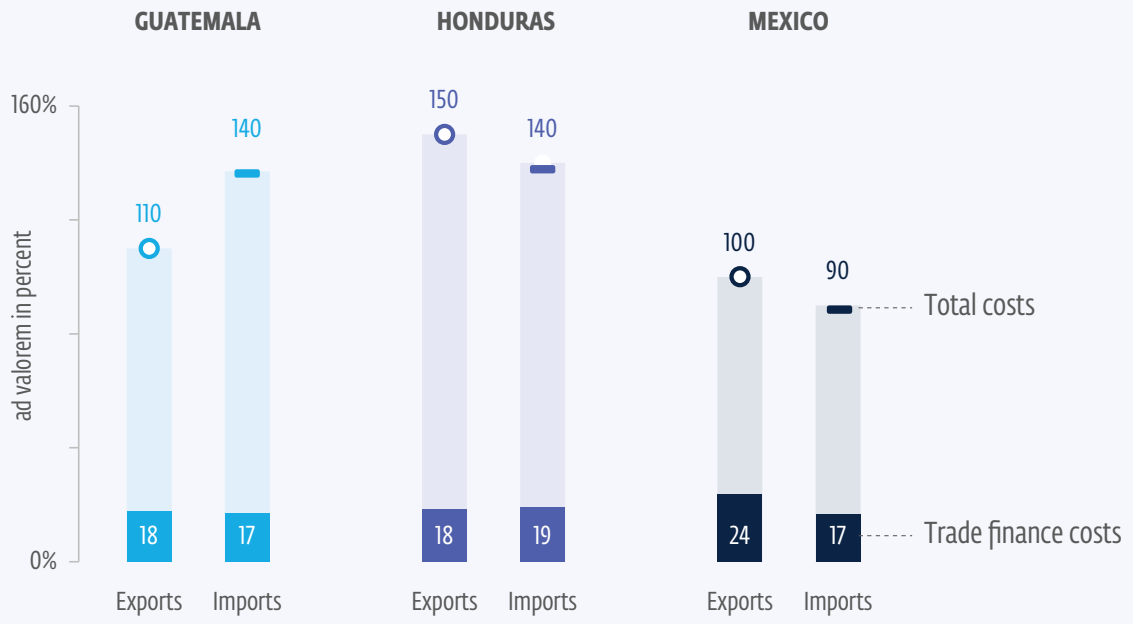
First, doubling the share of trade covered by trade finance leads to much larger trade cost reductions than reducing financial costs of trade finance instruments and lowering LC fees. This holds true for all three countries. The contribution of lower fees is small because the baseline share of trade financed with LCs is modest and the fees for this

34 The trade cost reductions for trade between the surveyed countries Guatemala, Honduras, and Mexico are set equal to the average trade cost reductions for trade between these three countries.

FIGURE 3.1

Trade Finance-Related Costs Are a Small Share of Overall Trade Costs

Ad valorem level of trade finance-related trade costs compared to total trade costs



Source: IFC-WTO calculations based on the 2024 IFC survey of trade finance in Guatemala, Honduras, and Mexico. Data collected from the World Bank, International Monetary Fund, International Chamber of Commerce, and from the literature, as detailed in Annex C.
Note: The figure displays the level of trade finance-related trade costs and the level of total trade costs reported in Chapter 1 (both in ad valorem trade costs) on exports and imports.

instrument are smaller than the financial costs of trade finance loans.

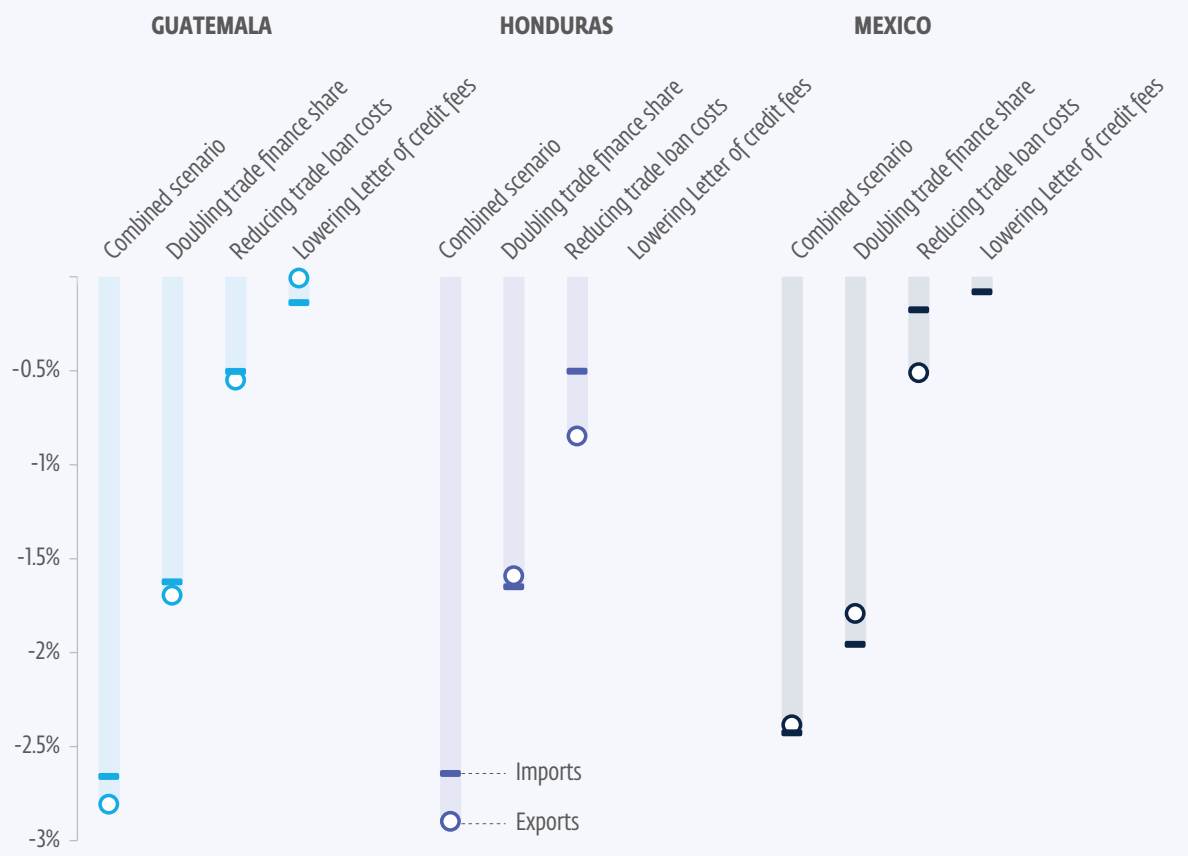
Second, projected trade cost reductions from cheaper trade loans are larger for exports than for imports for all three countries, whereas the projected trade cost reductions of increased trade finance coverage are (by design) approximately equal on the import side and export side. The reason that the trade cost reductions related to cheaper trade loans are larger on the export side is that on the import side, both the costs of export loans and the financial expenses associated with export LCs and SCF would decrease. In contrast, on the import side, only the financial costs of import loans would be reduced, since other instruments are provided by foreign financial institutions and therefore not considered in the counterfactual.

Third, the trade cost reductions in the combined Scenario 4 are approximately equal on the import side and the export side for all three countries. This follows from the first two points. Since raising the share of trade covered by trade finance generates

FIGURE 3.2

Expanding Trade Finance Coverage Would Have More Impact Than Lowering its Cost

Projected ad valorem trade cost reductions on imports and exports under the four scenarios



Source: IFC–WTO calculations based on the 2024 IFC survey of trade finance in Guatemala, Honduras, and Mexico. Data collected from the World Bank, International Monetary Fund, the International Chamber of Commerce, and from the literature, as detailed in Annex C.
Note: The figure displays the projected change in ad valorem trade costs (in percent) on exports and imports for the four scenarios.

larger trade cost reductions than reducing LC fees and the financial costs of trade loans, the combined scenario follows the pattern of Scenarios 1 and 2.

3.4 Projected Changes in Aggregate Exports and Imports

Figure 3.3 shows the projected changes in real exports and imports across the four scenarios, which include: increasing the share of trade covered by trade finance, reducing LC fees and SCF costs, lowering trade loan spreads, and combining all these adjustments.

The volumes (quantities) of merchandise imports are projected to increase by 5.7 percent in Guatemala, 7.4 percent in Honduras, and 6.7 percent in Mexico, whereas the increase on the export side is projected to be 7.8 percent, 8.9 percent, and 7.4 percent, respectively. The projected increase in percent terms is somewhat larger on the export side than on the import side in all scenarios and in particular for Guatemala and Honduras. In these countries the difference can be explained by the fact that they run a sizable trade deficit to start with. In the model, changes in the trade balance are determined by changes in savings minus investment. Savings are a fixed share of income in the model, whereas investment is determined by changes in an economy's rate of return relative to other economies. Raising the availability of trade finance will raise the rate of return on capital in the counterfactual scenarios and thus lead to capital inflows corresponding with a deteriorating trade balance and thus larger increases in the value of imports than exports. However, in percent the change in exports remains larger than the change in imports, because the initial value of imports is much larger because of the initial trade deficit. Intuitively, the difference in expansion in values is determined by the modest change in the trade balance which requires a larger percent increase for exports which start from a smaller value.[35]

For Mexico exports also change more in percent than imports, which is related to the general equilibrium nature of the model: services trade are not reported in the results, since trade costs are assumed to stay constant for services trade, related to the fact that the counterfactual focuses only on changes in the costs of trade finance for merchandise trade. However, on the export side services trade is projected to fall because of rising factor costs as the economy expands. Given that there is only a moderate change in trade balance in the model, this implies that merchandise exports must expand more than merchandise imports.

Reflecting the changes in trade costs, the largest contribution to the projected increase in exports and imports comes from the increased trade finance coverage, with falling costs of trade finance loans playing a small role and reduced LC fees a marginal role.

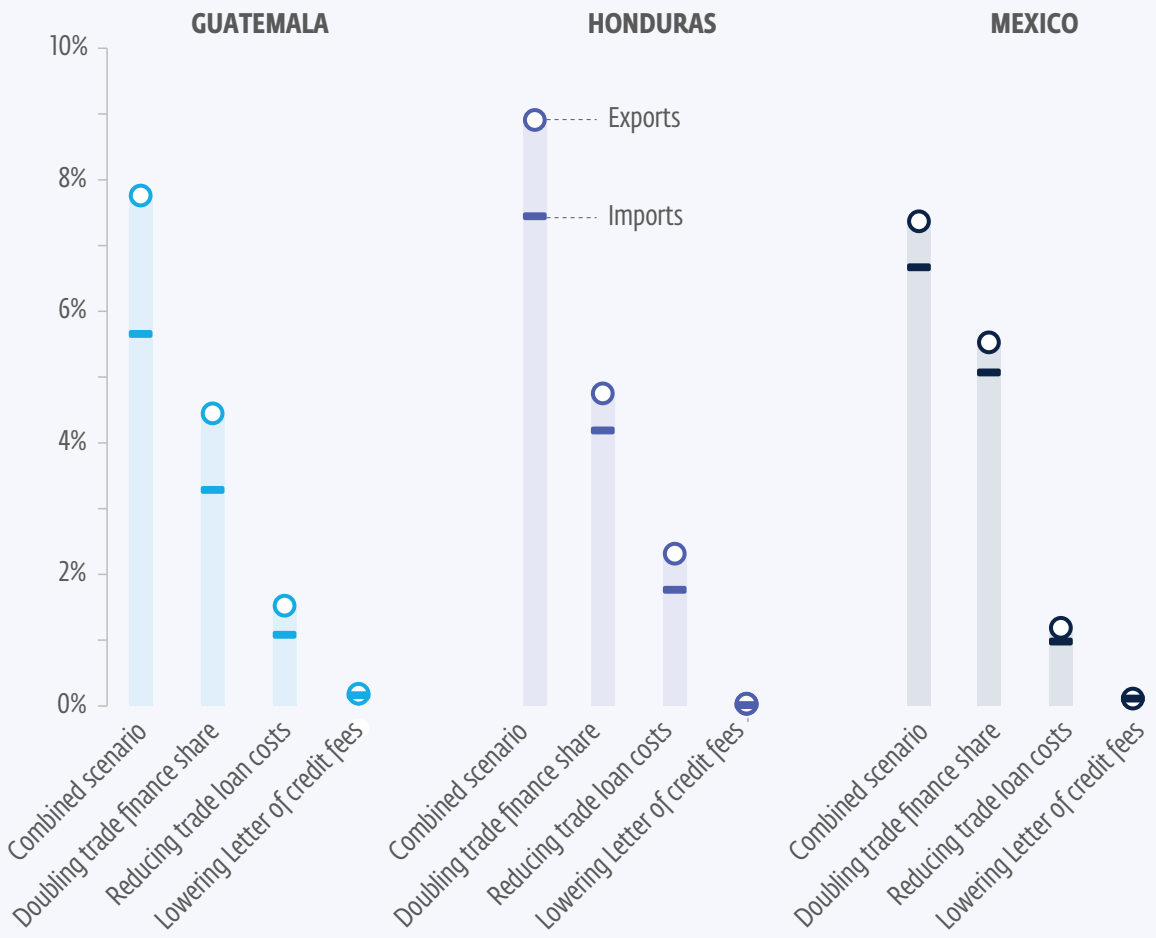
Reflecting the size of the changes in trade costs, the largest projected percent increase would be in Mexico, followed by Honduras. **Figure 3.4** converts the percent changes in trade into volume changes in millions of dollars, using 2023 WTO trade values also employed in Chapter 2. The projected increase in annual trade amounts to approximately

35 The alternative closure would be to fix the trade balance. This would make the asymmetry in projected percent changes on the export side and import side larger, since the trade value change on the import and export side would have to be equal in that case.

FIGURE 3.3

Extending Access to Trade Finance and Lowering Costs Boosts Both Exports and Imports

Projected increase in the volume of trade under the four scenarios



Source: Simulations with the comparative static version of the WTO Global Trade Model extended with trade costs being a function of the costs and shares of trade finance. **Note**: The figure displays the projected change in the volume of merchandise real imports and real exports for Guatemala, Honduras, and Mexico for the different counterfactual scenarios in percent.

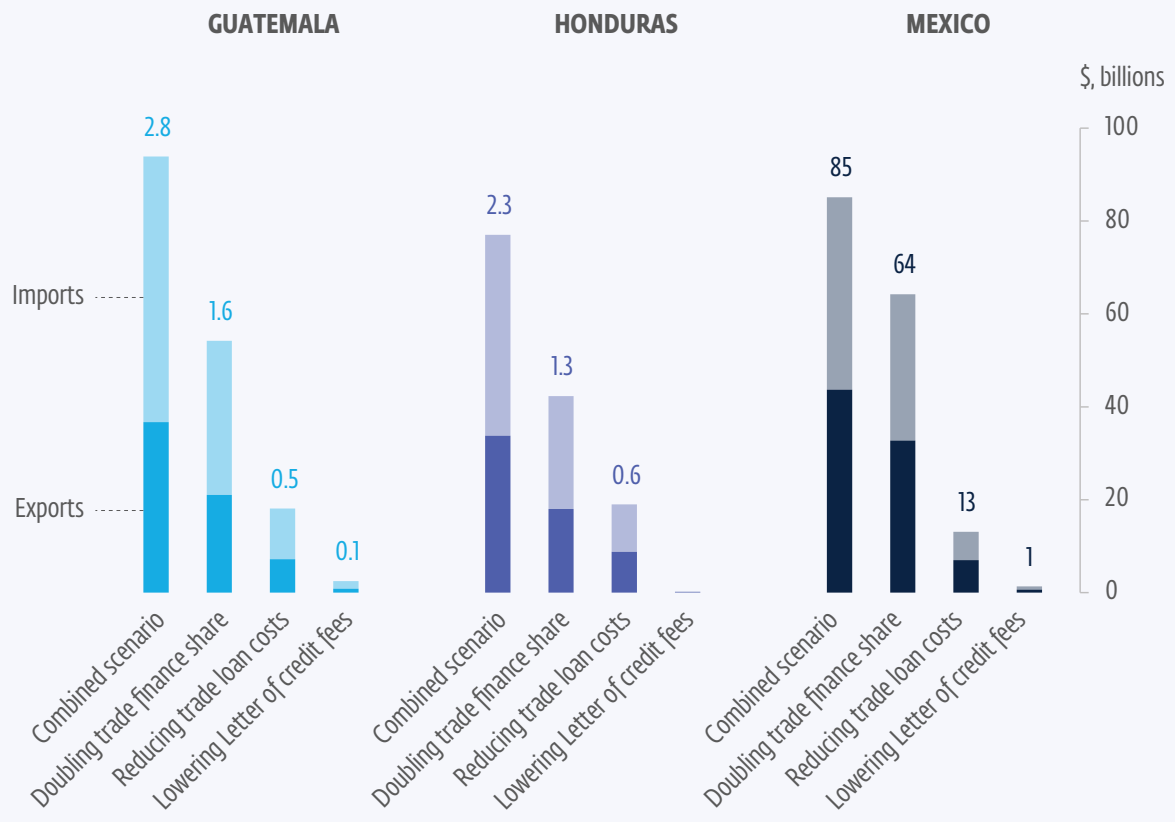
$2.8 billion for Guatemala, $2.3 billion for Honduras, and $85.1 billion for Mexico.

For all three countries, the largest amount of foregone trade as a result of insufficient trade finance and high costs of the trade finance instruments is on the export side. Additionally, the simulation results reveal that the effects of different shocks amplify each other, as the projected trade increase under the combined Scenario 4 exceeds the sum of the changes in Scenarios 1 plus 2 plus 3.

FIGURE 3.4

Goods Flows Would Increase by Billions of Dollars With Trade Finance Enhancements

Projected increase in the volume of trade under the four scenarios



Source: Simulations with the comparative static version of the WTO Global Trade Model extended with trade costs being a function of the costs and shares of trade finance. **Note**: The figure displays the projected change in the volume of real imports and real exports for Guatemala, Honduras, and Mexico in billions of dollars calculated by multiplying 2023 baseline values (rescaled with the aggregate trade values in the WTO–UNCTAD database) with projected percent changes under the different counterfactual scenarios.

The counterfactual analysis on the impact of the coverage and price of trade finance for Guatemala, Honduras, and Mexico can be compared with previous analyses on the role of trade finance in the Mekong region (IFC and WTO 2023) and in the four largest economies of the Economic Community of West African States (ECOWAS-4) (IFC and WTO 2022). Such a comparison reveals both similarities and differences.

Methodologically, the CAM-3 analysis incorporates SCF as a fifth trade finance instrument. As with the Mekong study, sectoral variation in trade finance coverage is taken into account based on the share of foreign-owned firms. Additionally, due to the absence of data on the rejection rate of trade finance requests, the counterfactual scenario is structured in a similar way to the Mekong study and not as it was structured in the ECOWAS study. In the latter, the projected expansion of trade finance was based on information on rejection rates, whereas in the Mekong study the projected expansion of trade finance was projected to be 20 percentage points in the combined scenario. In the current analysis the trade finance share is doubled, implying a more modest expansion of trade finance shares, ranging between 7.5 percentage points for Mexico and 12 percentage points for Guatemala.[36]

The counterfactual analyses suggest a similar projected increase in exports and imports in percent terms compared to the ECOWAS-4 and Mekong studies. In the ECOWAS-4 study, the benchmark scenario projected an 8 percent increase in trade, while the study on Cambodia and Viet Nam estimated an increase of 5 percent for imports into Cambodia and 9 percent for exports from Viet Nam. The projected increase in trade in the CAM-3 study ranges between a 5.7 percent increase in imports in Guatemala and an 8.9 percent increase in exports from Honduras. The similar projected expansion in the percent of exports and imports masks some important differences with the earlier studies, in particular the Mekong study. On the one hand, the projected trade cost reduction in the current study is smaller, mainly because the assumed expansion of the coverage of trade finance is smaller. This is compensated by a larger trade expansion in percent terms, driven by the fact that the Mekong economies start from a larger trade-to-GDP ratio, implying that there is less scope to shift resources from domestic sales to exports and expand trade in percent terms.

3.5 Detailed Results for Sectors and Trading Partners

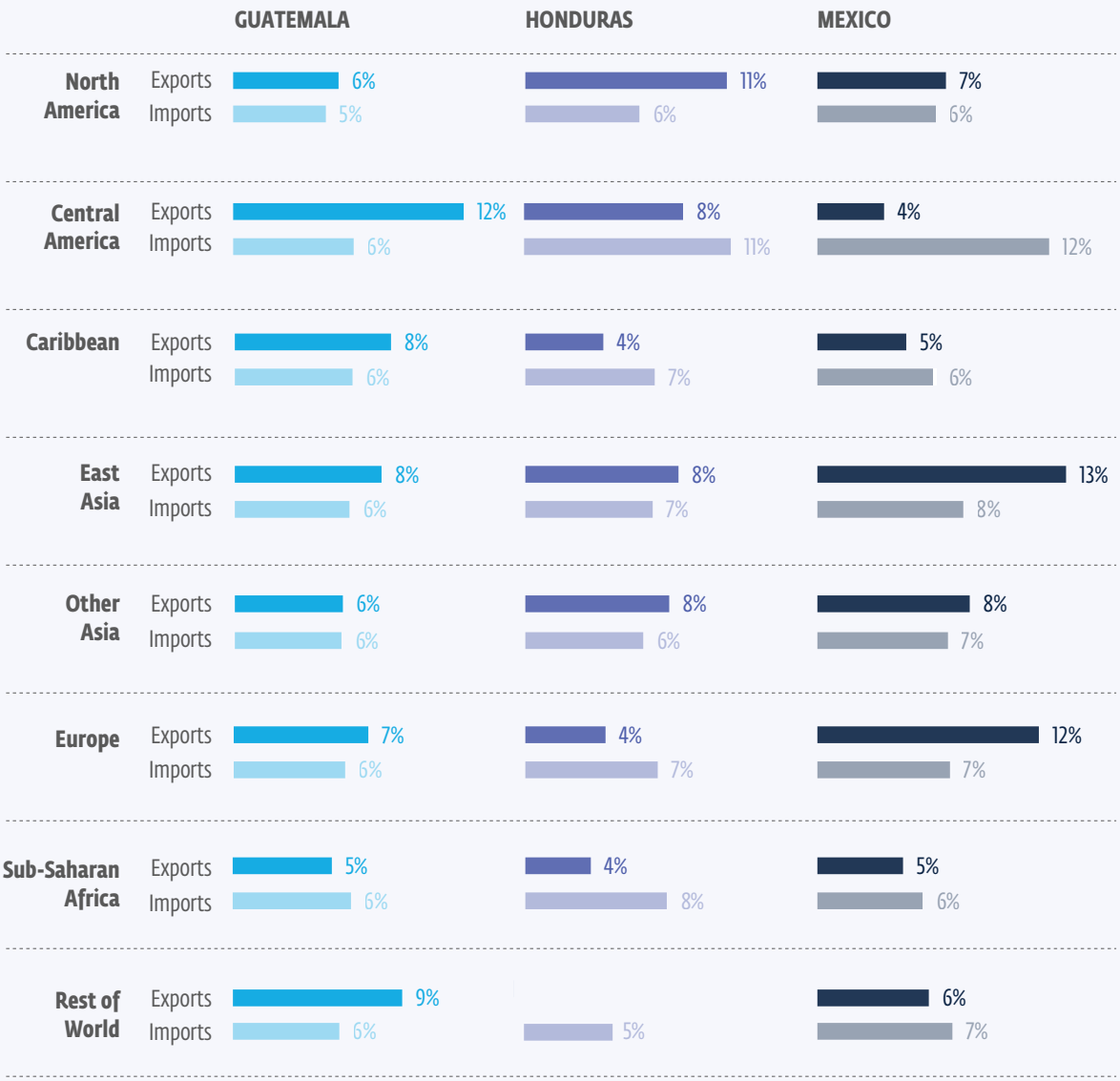
Figure 3.5 illustrates the projected changes in trade volumes by partner country under the combined scenario. In percent terms, the region where Guatemala is expected to experience the most significant export growth is Central America, followed by Rest of the World, and the Caribbean. For Honduras, the largest increase is expected for exports to Central America. Finally, for Mexico the largest rise is projected for exports to East Asia, Europe, and Other Asia.

36 Like last year, an average trade cost reduction is assumed for the regions included in the counterfactual experiment to avoid an inflated impact of extending trade finance for intra-regional trade in select countries.

FIGURE 3.5

The Projected Boost to Trade Varies By Sector and Partner for Each Country Studied

Projected increase in the volume of trade by trading partner, combined scenario



Source: Simulations with the comparative static version of the WTO Global Trade Model extended with trade costs being a function of the costs and shares of trade finance. **Note**: The figure displays the projected change in the volume of real imports and real exports for Guatemala, Honduras, and Mexico by trading partner in percent under the different counterfactual scenarios.

The percentage changes alone do not accurately represent the significance in volume of trade of different regions in the overall trade shifts for Guatemala, Honduras, and Mexico, as some regions may account for only a small portion of total trade. By combining the projected percentage changes with initial trade values, it is possible to assess the contribution of each region and sector to the overall change. To facilitate this analysis, **Table 3.1** presents the projected changes in trade, measured in millions of US dollars, by trading partner and sector.

For Guatemala, the largest contribution to the aggregate trade change comes on the export side from trade with Central America and North America with the increases concentrated in textiles, wearing apparel and leather, chemicals and pharmaceuticals, and other goods. On the import side, Central America and North America play the most important role, although Guatemala's imports from East Asia and Europe are also projected to deliver a substantial contribution to the total change in imports. The same sectors are important on the import side as on the export side, although imports of fossil fuels (from North America) and transport equipment are also projected to be important.

For Honduras, one entry is dominant in the heat map for increased exports: textiles, wearing apparel and leather exported to North America. The projected increase is an order of magnitude larger than the changes for other destination-sector combinations. The second and third most important changes in Honduras' exports are textiles, wearing apparel and leather to Central America, and computer equipment to North America. On the import side, the largest increases are concentrated in trade with Central America and North America with imports from East Asia being the next most important. The sectors with the largest changes are chemicals and pharmaceuticals, textiles, wearing apparel and leather, as well as other goods.

The projected increases in exports for agriculture are more limited in dollar terms than for other sectors both in Honduras and Guatemala. This seems surprising because crops are more than 20 percent of the exports for both economies (for example, cardamom, coffee, and palm oil in Guatemala, and coffee for Honduras). However, the simulations project that crops would benefit less than other sectors such as textiles, wearing apparel and leather (for both economies), chemicals and pharmaceuticals, and other goods (Guatemala) from an expansion of trade finance. The reason is that these other sectors have much stronger value chain linkages. Since trade finance is projected to reduce both export and import costs, this implies that these sectors can expand much more than agriculture which relies mostly on intermediate inputs sourced domestically.

Finally, for Mexico the largest contribution to rising exports comes from trade with North America in the two main sectors of transport equipment and "other equipment" (electronic equipment and machinery and equipment). The changes in other sectors and with other trading partners are an order of magnitude smaller. The second and third most important regions are East Asia and Europe. On the import side, the most important region is North America, followed by East Asia. On the import side transport equipment plays a less prominent role with other equipment and other goods being the most important sectors. Compared

TABLE 3.1

Projected Increase in the Volume of Trading by Partner and Sector

$, millions, combined scenario

		IMPORTS							
		Caribbean	Central America	East Asia	Europe	North America	Other Asia	Rest of World	Sub-Saharan Africa
GUATEMALA	Agriculture	0.5	6.5	8.6	23	45.8	20.6	0.8	0.4
	Chemicals & pharmaceuticals	10.1	140.4	0.7	2.6	6.6	13.2		0.1
	Computer equipment	0.4	3.5	0.7		0.4	0.4		
	Fossil fuels	0.1	3.4	20.3	16.4	32.8	0.4	16.4	
	Other equipment	0.4	7.5		0.3	0.5	1		
	Other goods	13.8	242.8	20.1	42.7	65.5	28.1	0.7	11
	Textiles, apparel, and leather	3	64.6	2.3	6.4	211.8	2.7	0.1	0.2
	Transport equipment		0.6			0.1			
HONDURAS	Agriculture	-0.4	0.2	2.3	30.7	-3.3	-0.5	-0.3	-0.1
	Chemicals & pharmaceuticals	0.5	14	0.3	1	0.9	0.3	0.1	
	Computer equipment	0.2	4.3	1	0.9	53.1	0.6		
	Fossil fuels		0.2	0.2	7	0.8	0.8		
	Other equipment		0.1		0.2	-0.7	0.1		
	Other goods	3.8	27.2	9.3	18.2	35.2	3.3		
	Textiles, apparel, and leather	5.2	130	7.3	22.7	620.3	15	0.2	0.3
	Transport equipment		0.3		0.1	0.8	0.1		
MEXICO	Agriculture	1	3.3	10.4	20	274.5	11	0.3	2.7
	Chemicals & pharmaceuticals	7.9	54.9	76.1	124.1	697.8	58.1	0.4	0.6
	Computer equipment	10.8	31.1	147.4	74.3	2562.5	48.8		0.2
	Fossil fuels	24.7	13.3	1040.6	628.4	1296.7	293.4	0.3	0.7
	Other equipment	84.9	82.3	2119.4	1006.4	17920.5	1291.8	6.8	17.6
	Other goods	-3.4	37.9	137.3	169.4	1137.4	13.1	-0.4	-0.8
	Textiles, apparel, and leather	-0.9	1.9	5.5	5.5	-2.4	0.1		
	Transport equipment	48.2	36.9	315.9	1061.3	10224.3	435.4	4	0.7

$, millions, combined scenario

		EXPORTS							
		Caribbean	Central America	East Asia	Europe	North America	Other Asia	Rest of World	Sub-Saharan Africa
GUATEMALA	Agriculture	0.4	5.2	0.6	2.8	56.6	11.7		0.3
	Chemicals & pharmaceuticals	1.6	95.7	71.5	46.8	65.5	47.3	2.5	
	Computer equipment		8.7	11.2	4.9	6.6	2.7		
	Fossil fuels	0.3	1.7	1.8	0.9	98.4	3.8	0.2	
	Other equipment	0.5	39.1	34.1	27.1	61.9	16.4	0.1	
	Other goods	5.6	218.2	91.5	46.7	189.6	67.1	3.4	0.1
	Textiles, apparel, and leather	0.5	45.0	103	7	47.8	18.6		0.1
	Transport equipment	0.2	11.3	48.7	9.8	36.1	34.9		0.7
HONDURAS	Agriculture	0.2	7.9	0.4	1.2	24.5	2.6		0.1
	Chemicals & pharmaceuticals	0.7	109.5	15.8	9.6	29	17.5	2.8	
	Computer equipment	0.2	17.7	13.6	5.1	21.7	3.8		
	Fossil fuels		1.1			-4	0.6		
	Other equipment	0.6	23.3	41.7	21.8	79.2	20.2	0.1	
	Other goods	3.8	223.1	23.8	12.2	75.1	22.4	0.3	0.3
	Textiles, apparel, and leather	2.5	103.1	24	2.4	251.8	10.1		
	Transport equipment	0.1	3.3	24.9	1.7	20.3	22.7		0.5
MEXICO	Agriculture	3.2	0.8	3.8	13.9	560.1	37.4	2.3	2.2
	Chemicals & pharmaceuticals	20	30.8	656.5	708.3	3340.9	273.5	16.4	1.5
	Computer equipment	10.6	21.7	618.3	316.8	1940	127.8	0.6	0.4
	Fossil fuels	3.8	0.1	68.8	48.9	2402.6	60.2	1.2	22.4
	Other equipment	38.4	4.1	3461.7	1133.4	7299.9	912.4	1	1.6
	Other goods	36.7	114.6	1823.7	1085.3	6863.2	657.9	59.0	15.4
	Textiles, apparel, and leather	7.1	88.9	484.5	165	549.3	255.6	0.1	2.2
	Transport equipment	12.3	0.3	914.3	773.7	3010.4	363.9	0.4	0.8

Source: Simulations with the comparative static version of the WTO Global Trade Model extended with trade costs being a function of the costs and shares of trade finance. **Note**: The tables display the projected change in the volume of real exports (upper table) and real exports (lower table) for Guatemala, Honduras, and Mexico in millions of dollars by trading partner and sector calculated by multiplying 2022 baseline values (rescaled with the aggregate trade values in the WTO–UNCTAD database) with projected percent changes of the different counterfactual scenarios.

to North America, the projected changes for East Asia are larger than on the export side, reflecting the role of Mexico in the value chain of goods produced for the North American market.

3.6 Robustness Checks

To ensure the accuracy of the analysis, three sets of robustness checks were performed. The initial trade finance costs were established through a thorough review of available data, which also informed the conceptual framework for the counterfactual experiments (see **Annex C** for details). However, three assumptions had to be made with limited direct data guidance. These assumptions related to the allocation of trade not covered by trade finance tools between cash in advance and borrowed working capital, the share of SCF in non-surveyed countries, and the cost differences between trade finance instruments and alternative financing methods. To discipline these assumptions, the analysis relied on data comparing the costs of trade finance and non-trade finance options. As discussed in Annex C, robustness checks were applied to assess their validity.

The results of these checks suggest that these assumptions have little impact on the overall findings. Specifically, reducing the gap between financing costs for trade finance and non-trade finance instruments lowers the projected trade expansion, but the effect is not massive. More specifically, reducing the ratio of financing costs for trade finance to non-trade finance costs from 2 in the benchmark to 1.5 in the robustness checks would reduce the increase in trade finance for Guatemala from $2.8 billion to $2.1 billion, for Honduras from $2.3 billion to $1.8 billion, and for Mexico from $85.1 billion to $65.3 billion. Changes to the assumptions regarding the distribution between cash in advance and borrowed working capital have a smaller effect.

4

Conclusions *and* Recommendations

Photo: Cargo containers being offloaded at the port in Ensenada, Mexico © by Wayne via AdobeStock

Bank-intermediated trade finance is in short supply in the three countries studied: Guatemala, Honduras, and Mexico (CAM-3). Possible causes of this include high shares of related-party trade in the case of Mexico, the structure of trade and a less mature financial sector in the case of Honduras and Guatemala, and a history of conducting trade on open account across the region. As trade-related risks remain, export growth and deeper integration into global value chains in the CAM-3 are likely to increase demand for bank-intermediated trade finance. The same holds for supply chain finance (SCF) solutions to bridge payment gaps that may be riskier and costlier with new suppliers. Greater diversification of trade partners and routes, the entry of new traders, and increased export penetration especially within Latin America could drive demand for volume and innovation in the local trade finance market in the future.

Even though most large traders in the CAM-3, especially in Mexico, rely more on open account transactions and less on local bank-intermediated finance, local banks are essential for facilitating cross-border trade. Access to affordable working capital loans and the development of bank-intermediated SCF in particular can reduce financial risks for smaller trading firms and deepen the CAM-3's integration into value chains. Yet lending and related solutions remain expensive and often out of reach, as documented in Chapters 1 and 2.

Mexico's SCF market has benefited from regulatory and digital innovations, global value chain integration, and the presence of subsidiaries of large foreign banks with experience in SCF. In contrast, Guatemala and Honduras rely more on traditional instruments, reflecting their relatively smaller and less mature banking and trade finance sectors. Sectoral and spatial coverage of bank-intermediated trade finance in the CAM-3 aligns with their international trade pattern. The trade loan interest rate spread over the monetary policy rate is lower in Mexico than in Honduras and Guatemala, reflecting cross-country differences in the structure and functioning of the banking sector. Macroeconomic instability, liquidity issues, and correspondent banking constraints are among the challenges facing CAM-3 banks, with Honduran banks reporting more severe constraints (see Chapter 2).

Complementary action by the corporate sector, financial institutions, national policymakers, and regional and multilateral development banks could help increase the uptake of trade and supply chain finance (TSCF) in the region, and address the constraints identified. Key recommendations for Mexico include regulatory harmonization with key trading partners to further grow SCF markets, as well as expanding the use of e-invoice and improving their registration procedures, available typically at the largest banks only. In Guatemala and Honduras building market awareness of financial product availability, promoting common sector-level operating infrastructure (e.g. dedicated electronic platforms), strengthening the capacity of banks, and the use of warehouse receipts would be more critical. Banks in these two countries voice greater need of liquidity support, advice on regulatory compliance, as well as the expansion of correspondent banking relationships for second-

tier banks. In all three countries, trade finance costs can be reduced by better assessing risks i.e. incorporating separate assessments of risk into banks' pricing of related lending.

Broader financial sector interventions that are not directly related to trade finance stand to benefit trade finance markets in many ways as well. Prime among them is better access and terms of financing for smaller firms, greater competition in the banking sector, and incentives to expand digitalization of bank operations.

Below are some key recommendations to help strengthen the TSCF sector in the countries studied.

4.1 Expand Supply Chain Finance Markets

SCF comprises a variety of financial products and solutions that can help smaller producers and service providers manage their cash flow and improve their financial stability, ultimately expanding opportunities for deep tier financing. Especially in Mexico, regulatory harmonization with key trading partners, and digital innovations such as e-invoice adoption by companies, are critical to upscale SCF provision. Combined with broader regulatory reforms at the level of government discussed below, various SCF products can be implemented, including receivables discounting, factoring, and pre-shipment finance.

At an earlier stage of development, SCF markets in Guatemala and Honduras would require pioneering action to address the needs of smaller enterprises and develop their linkages. Besides promoting common sector-level operating infrastructure (e.g. dedicated electronic platforms) and services, examples of specific actions include building market awareness of financial product availability, modalities of use, and risks; and strengthening the capacity of banks and other supply chain participants to offer SCF products, and of trading firms to take advantage of them.

4.2 Harmonize and Modernize Regulations

Because outdated conditions and frameworks inadvertently generate barriers and risks for financial institutions, regulatory advances can facilitate SCF expansion and product development. Harmonization of the three countries' regulatory framework with key trading partners, combined with steps to fully digitalize invoices, can provide greater predictability to market participants and foster growth in trade finance. Improving the efficiency of the invoice registration process and facilitating real time invoice authentication through certification providers are further examples of action at the level of government. While Mexico and Guatemala are improving their registration procedures for factoring and e-invoices, these are available typically at the largest banks only. Honduras has undertaken such changes to a lesser extent: hard copies of documents are still required for legal actions despite e-invoice adoption.

The regulatory framework for warehouse receipts is another powerful tool to expand the range of options for commodity traders lacking collateral. The United Nations Commission on International Trade Law has adopted a model law governing

warehouse receipts for developing countries, which is particularly relevant to those rich in agricultural commodities like Honduras and Guatemala. Warehouse receipt financing offers credit access: strong regulations protect depositors and lenders, ensuring enforceability and making these receipts valuable collateral. However, electronic warehouse receipts are not yet legally recognized, presenting opportunities for further digitalization. More advanced in this area, Mexico recently enacted regulation on digitalization of warehouse receipts.

At the frontier in this field, Brazil provides digital solutions for warehouse and inventory financing using blockchain, big data, and the Internet of Things. The Brazilian Financial Regulatory Warehouse Platform employs these technologies to constantly monitor cargo activity online.

4.3 Reduce Costs by Better Assessing Risks

In all three countries, the cost of trade finance is well above that country's monetary policy rate (see Chapter 1B and 2). Revisiting the pricing methodologies of trade finance-related products by incorporating separate assessments of risk into the pricing of related lending may be an effective way to reduce costs. Furthermore, insufficient foreign currency exchange is one of the major concerns voiced by banks, especially in Honduras.

Facilitating competition in the banking sector stands to reduce the costs of trade finance provision across the CAM-3. The provision of banking services to small businesses in Latin America remains generally expensive by international comparison (World Bank 2020). While many factors contribute to high costs of financial intermediation in the region, restricted or distorted competition may be an important supply-side driver. Collaboration between competition and financial sector authorities aimed at fostering more evidence on the efficiency of financial services markets would be essential in a rapidly evolving landscape marked by technological advances.

4.4 Enhance Banks' Capacity

In Guatemala and Honduras, trade finance products have limited availability among smaller banks that may benefit from interventions that enhance their capacity to offer trade finance. This may involve actions such as liquidity support, advice on regulatory compliance, setting up mechanisms for collecting market intelligence and assessing risks, as well as the expansion of correspondent banking relationships for second-tier banks. International institutions, including regional and multilateral development banks, could help smaller banks in areas such as compliance. The involvement of international institutions could help reassure correspondent banks on counterparty risk, but more importantly, help alleviate the high cost that local lenders face to open new relationships and build bigger networks.

Greater adoption of environmental, social, and governance standards can also be incorporated in the design of trade finance instruments, with the help of international institutions. That kind of capacity building is most effective when provided to both banks and end users of trade finance.

Strengthening digital capabilities is an overarching objective of capacity building for banks and trade finance users as evidenced in Mexico where digital innovations, including artificial intelligence, have enabled automation of trade finance document examination. The region has significant potential to leverage digital infrastructure to make risks more predictable both for both banks and cross-border traders, irrespective of the economic activity concerned or trading partner.

4.5 Improve Firms' Access to Financial Services

Enhancing access to financial services more generally, particularly for smaller and women-owned firms, is critical to broaden the range of users of trade finance in the CAM-3 and to offer opportunities for further expanding TSCF markets. This is particularly important for smaller firms that may not have access to traditional financing options, especially in Honduras due to insufficient financial literacy. Despite adopting international standards, the documentation burden prevents smaller traders from benefiting from lower banking costs. Small and medium-sized enterprises struggle due to informality as well as difficulty in adopting necessary standards, which makes them rely more on alternative financing with higher interest rates. This is particularly the case for SCF products such as factoring, offered by Guatemala and Honduras' largest banks.

All stakeholders have an important role to play to improve firms' access to trade finance. Banks can benefit from tailored training; governments can facilitate risk-sharing facilities among traders and financial institutions e.g. by proposing first-loss guarantees; and smaller traders can benefit through greater participation in industry associations offering technical assistance and relevant knowledge sharing. Improving the perceived risk profile of smaller and women-owned businesses through better data collection on performance, business transactions, and credit as well as the systematic use of these data by financial providers is crucial. Digitalization offers vast opportunities to that end. The incorporation of improved assessments of their risk profiles into pricing and access of TSCF instruments can ultimately benefit both providers and users of trade finance.

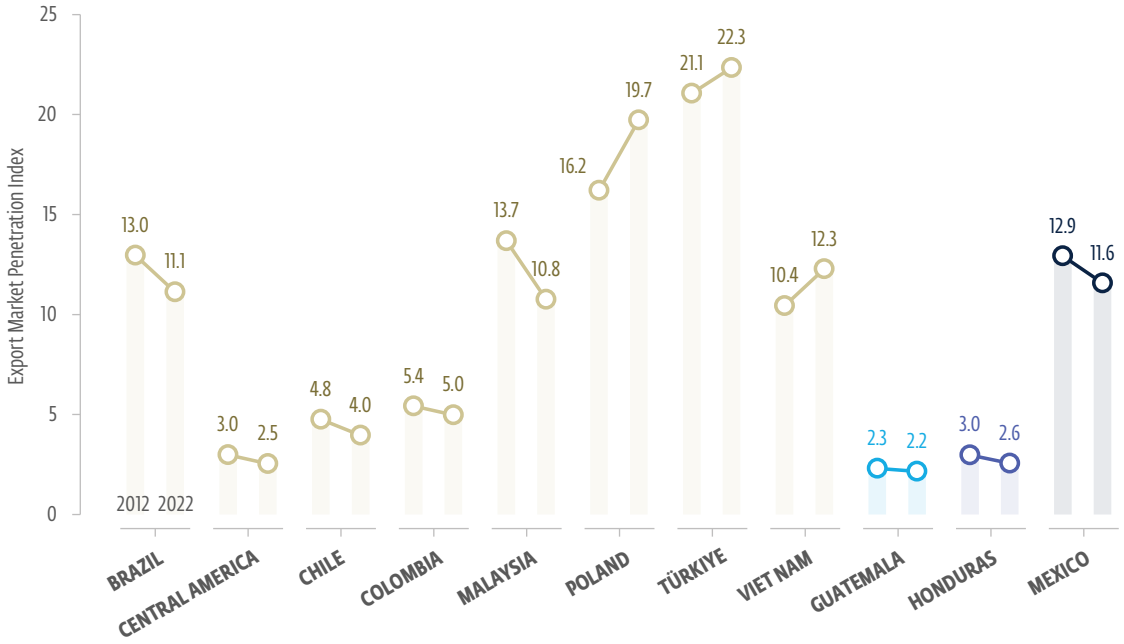
Photo: Traditional Central American design © by Byron Ortiz via Shutterstock

Annexes

Annex A1

FIGURE A1.1

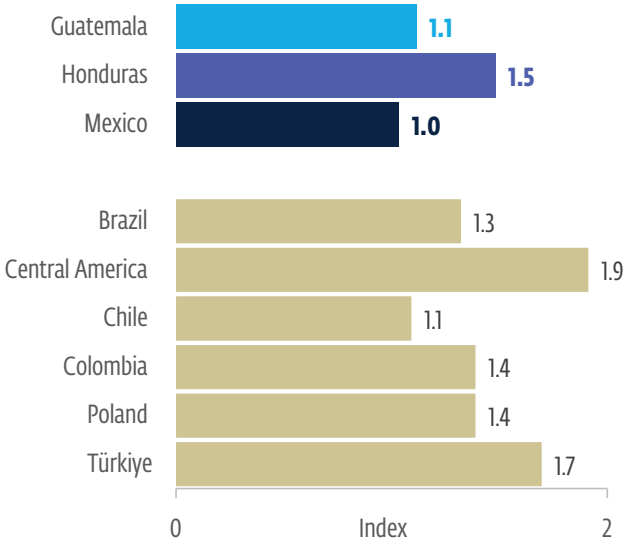
Index of Export Market Penetration, 2012–2022



Source: World Bank WITS, using mirror trade data. **Note**: The index follows Brenton and Newfarmer (2007) by comparing for each exported product, the number of countries to which the country exports that product relative to the total number of countries which import that product, and then sums across all products exported. The ratio yields the Index of Export Market Penetration, which measures the extent to which a country is exploiting the market opportunities from the existing set of export products.

FIGURE A1.2

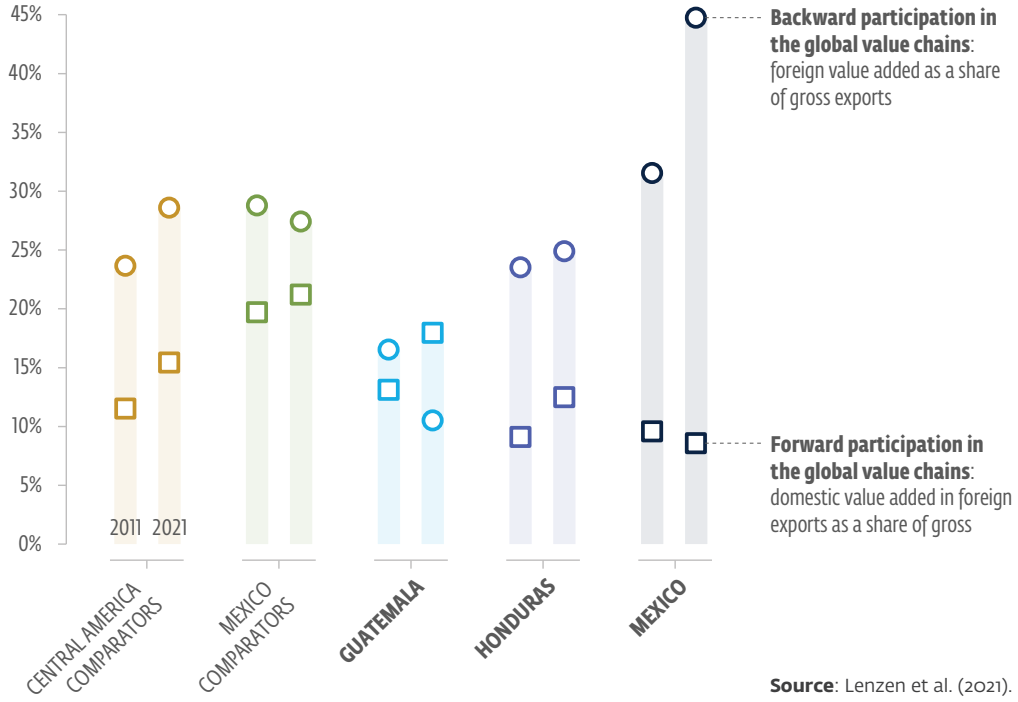
Trade Costs of Exporting, 2021



Source: UN ESCAP (2021).

FIGURE A1.3

Forward and Backward Linkages in CAM-3 and Comparator Countries, 2011–2021



Source: Lenzen et al. (2021).

TABLE A1.1

Top Five Sectors in Imports by Country, 2010–12 vs. 2020–22

		Average 2010–12		Average 2020–22	
		Imports $, billions	**Import share** %	**Imports** $, billions	**Import share** %
MEXICO	Machinery and electrical	69.7	27	110.2	28
	Minerals	26.7	10	46.5	12
	Transport	29.9	12	40	10
	Base metals	23.3	9	37.2	10
	Chemicals	22.7	9	33.8	9
GUATEMALA	Minerals	2.3	18	3.4	17
	Electronics	1.7	13	2.5	12
	Chemicals	1.5	12	2.1	10
	Textiles	1	8	1.6	8
	Processed food	0.8	6	1.5	7
HONDURAS	Textiles	2.2	22	2.5	18
	Minerals	1.8	18	1.8	13
	Machinery and electrical	1.2	12	1.6	12
	Foodstuffs	0.8	8	1.3	9
	Animal oils	0.7	7	1.3	9

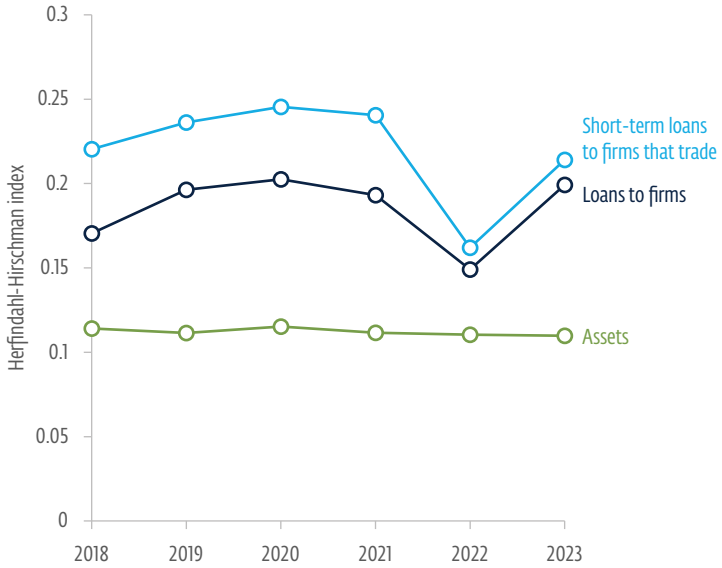
Source: World Bank WITS.

Annex A2

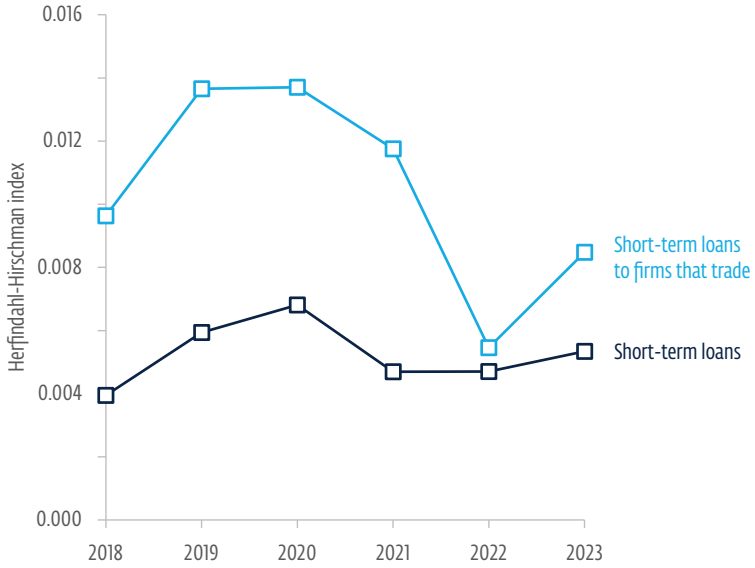
FIGURE A2.1

Concentration of Loans at the Bank and Firm Levels, 2018–2023

A: Provider Herfindahl-Hirschman index (HHI): bank assets and loans



B: User HHI of short-term loans: firms and traders

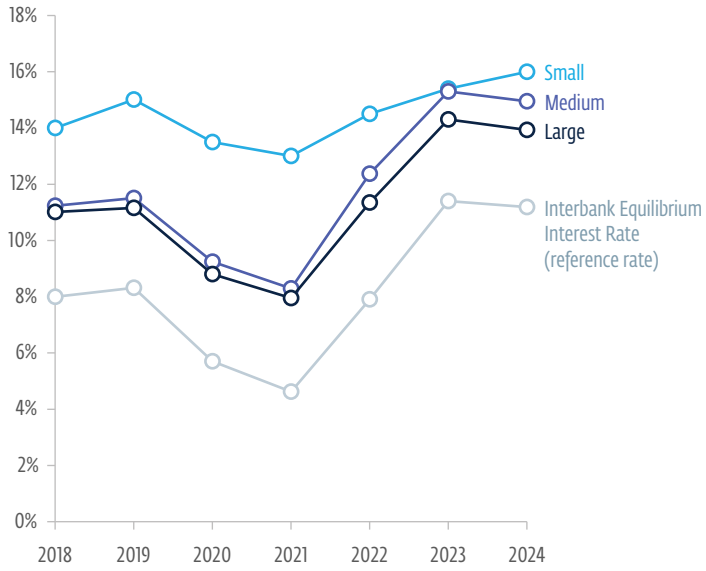


Source: Data from S&P Panjiva (2024) for trade and The National Banking and Securities Commission (CNBV) for loans.

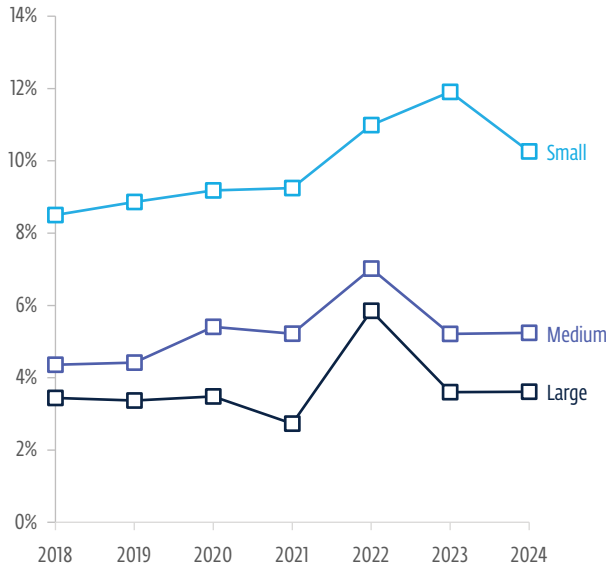
FIGURE A2.2

Interest Rates for Firms That Do Not Trade, by Firm Size

A: Median interest rates



B: Percentile 90–10 of interest rate



Source: Data from S&P Panjiva (2024) for trade and The National Banking and Securities Commission (CNBV) for loans.

Annex B1

BOX B1.1

IFC Bank Survey, Data Limitations, and Complementary Secondary Data

The IFC survey covered 30 banks of which four local Guatemalan banks did not offer trade finance during the reference period. Two thirds or more of the surveyed banks engaged in trade finance that reported data on bank ownership had foreign ownership of at least 70 percent. Low participation of local banks and dominance of large international banks in the trade finance market of Latin America has been documented (Pérez-Caldentey et al. 2014). A structured questionnaire was used to gather data from banks about unfunded documentary transactions (e.g., cross-border letters of credit (LCs), standby LCs, and performance bonds), funded trade transactions (e.g., import LCs with post-financing, pre-export finance facilities, and post-shipment finance facilities), and international supply chain finance, the cost of trade finance instruments, correspondent banking relationships, top trading countries for trade finance applications, constraints facing banks providing trade finance, and trade finance recipients by sector and customer segments. The reference year for trade finance data collected is 2023.

We are deeply grateful to the banks that responded to the survey, which was not part of their regulatory obligations, and to others that supported the data collection, including bank and non-bank associations, authorities, and regulators. However, like in any survey, a few limitations with bank survey data and analyses thereof could affect the accuracy of estimates and generalizability of findings. First, bank survey participation rate was relatively low in Honduras (44 percent of total bank assets), with some of the largest banks not responding to multiple invitations to participate in the study. Bank survey coverage was good in Mexico (68 percent) and Guatemala (98 percent). Second, not all survey questions were consistently answered. For some banks, data were collected partially, through in-person interviews. Third, although a follow-up data verification exercise was implemented with banks, some reporting errors may have remained. For example, banks were asked to exclude loans from their trade loan assets if they were not linked to cross-border trade. Some reported it was difficult to distinguish trade-related working capital loans from non-trade loans.

Another indicator is trade finance application rejection rate, where trade finance departments reported they provided trade finance to clients already pre-screened by another department. For these banks, bank-declared trade finance application rejection rates may underestimate rejections without pre-screening. Follow-up communication with some banks uncovered that some might have reported trade finance assets from their global trade finance operations that exceeded their locally reported total bank assets. Finally, the model we estimate to impute trade finance assets of non-surveyed banks

is underpowered due to small number of banks (N) and likely mis-specified since we are not controlling for potential determinants of bank-intermediated trade finance beyond bank size (e.g., capital adequacy and risk appetite, liquidity position, client base, sector focus, and technology infrastructure) due to small N and lack of survey data. Imputed trade finance assets for non-responding banks and other indicators derived thereof should therefore be treated as rough estimates.

To complement data from the bank survey, we analyzed other secondary sources including enterprise level data about external sources of working capital financing for traders from the World Bank Enterprise Surveys (WBES), related-party trade flow between the US and CAM-3 from the US Custom Bureau, and factoring flow data from FCI. WBES data for the CAM-3 and comparator countries provide demand-side insights about external sources of working capital financing from banks and suppliers for cross-border traders. Some of this financing was likely aligned with the cash conversion cycle for trade goods (i.e., specialized working capital loans to traders). Since the WBES sample is not stratified by cross-border trading status, we use information on whether surveyed enterprises imported inputs/supplies or sold in foreign markets to identify cross-border traders—defined as enterprises that imported inputs, had foreign sales, or both.

About 30 percent of the 1,322 enterprises in the latest round of WBES for Mexico, 76 percent of the 345 enterprises in the Guatemala survey, and 80 percent of the 332 enterprises in the Honduras survey were cross-border traders. We acknowledge that given its design, insights from WBES may not be generalizable to the universe of cross-border traders.

BOX B1.2

Banking Sector Characteristics

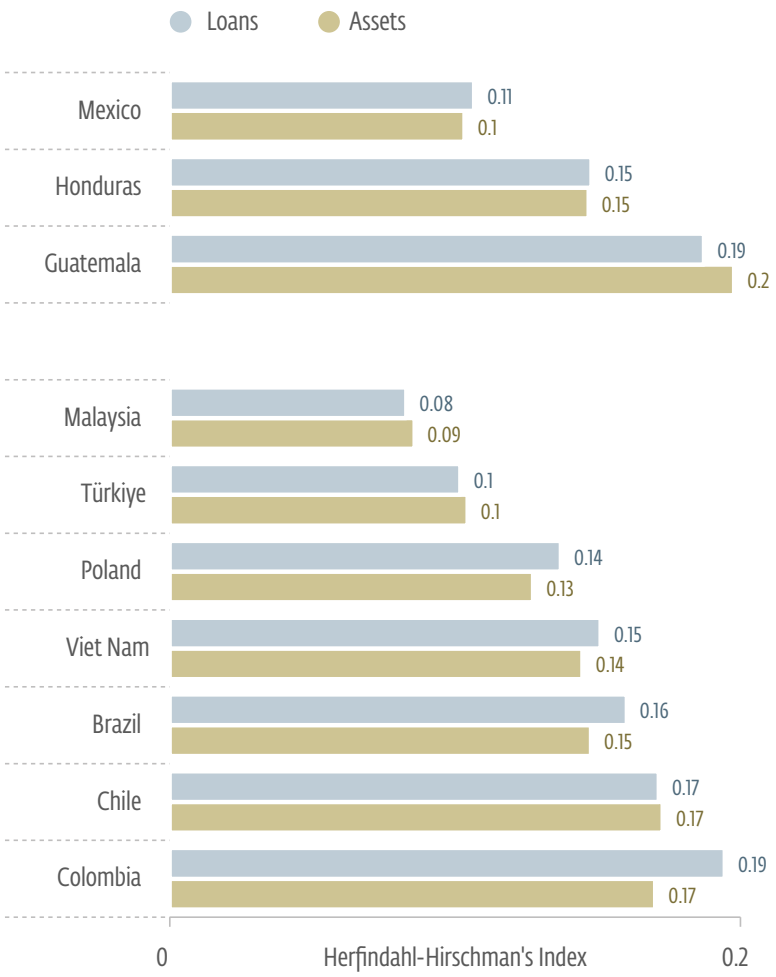
Mexico has a well-developed and diverse banking sector that is among the largest in Latin America. It has several subsidiaries of large international banks that offer a wide range of retail, commercial, and investment banking services as well as development banks to fill gaps in the commercial banking sector. Legal and regulatory frameworks are among the factors that determine the availability of affordable international trade financing, although they are often-overlooked elements (World Economic Forum 2017). For example, correspondent banking relationships are essential vehicles for local banks to gain access to international financial networks, but the scope for correspondent-banking relationship-facilitated trade finance will be limited without the necessary regulatory systems (e.g., for tackling financial fraud) locally and between countries.

In this regard, Mexico's financial sector regulatory systems are among the most advanced in the region. Mexico has the least concentrated banking sector among the three (see below) as well as relative to its peers in Latin America and the Caribbean, Asia, and Europe. High banking sector concentration can be a symptom of insufficient market competition and may result in limited access to and high cost of financing especially for smaller businesses. In contrast, the financial sectors in Guatemala and Honduras are less mature and integrated relative to Mexico's, despite witnessing growth in recent years. Their banking sectors rely heavily on traditional banking services and foreign subsidiaries are relatively less common. The microfinance sector is dominant in both countries, catering to underserved segments, including small- and medium-sized enterprises.

The existence of a relatively large informal economy has made it challenging for banks to assess credit risks, thereby negatively impacting the availability, diversity, and cost of financing, especially in Honduras (ITA 2024). The two Central American countries also face regulatory challenges in their financial sectors, particularly related to enforcement and compliance.

FIGURE B1.1

Banking Sector Concentration for CAM-3 and Comparators



Source: The Banker Database, Financial Times Ltd [Retrieved November 15, 2024].
Note: Herfindahl-Hirschman's Index (HHI) is computed separately for total bank assets and gross bank loans. Concentration is said to be low, medium, and high when HHI is, respectively, less than 0.1, between 0.1 and 0.18, and above 0.18.

Annex B2

Estimation of Bank-Intermediated Trade and Supply Chain Finance and Rejected Applications

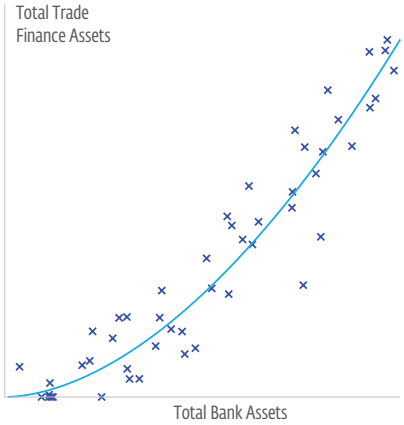
To estimate the value of bank-intermediated trade finance for non-surveyed banks, we follow the approach employed in previous trade finance studies (IFC and WTO 2022, IFC and WTO 2023). The total country-level bank-intermediated trade finance is subsequently calculated by summing the estimated trade finance assets of non-surveyed banks and the bank-declared trade finance assets of responding banks.

Trade and supply chain finance assets for non-surveyed banks

The central component of the trade finance estimation method assumes the existence of a relation between the trade finance assets of banks and their total assets. Two main functional forms are considered here. The first assumes a proportional relationship between trade finance assets of banks and their total assets, similar to the approach adopted in Nyantaky (2023). We call this functional form a Proportional Law. The second assumes a power law relationship between the two variables (see Di Giovanni, Levchenko and Rancière (2011) for general discussion). We call this relationship a Power Law. Below, we discuss the two models further.

Power Law

This relationship assumes that as banks increase in size, measured by their total assets, they gain access to larger trade finance contracts and establish a more extensive network of correspondent banks. As a result, larger banks are assumed to have a higher share of their assets devoted to trade finance relative to smaller banks, as illustrated below.



This implies the following functional form:

$$TF_{b,c} = \alpha(TA_{b,c})^k$$

where:

- b and c are indices for bank and country.
- TF and TA are, respectively, total trade finance assets (TF) and total bank assets (TA).
- α is the *size* parameter of the distribution.
- k is the *shape* parameter of the distribution that is assumed to be greater than one.

Proportional Law

Here, we assume that the total assets of a bank do not influence its offering of trade finance assets. Specifically, trade finance assets are assumed to account for a constant proportion of total bank assets regardless of bank size, as illustrated below.

This relation corresponds with the following functional form:

$$TF_{b,c} = \beta TA_{b,c}$$

where:

- TF and TA are as defined before.
- β is the proportionality parameter.

We estimate both functional forms *separately* for each country using data from respondent banks (r). The Power Law relationship is equivalent to estimating the log-transformed model in Equation 1 via ordinary least squares (OLS).

$$\ln TF_{r,c} = A + k \ln TA_{r,c} + \varepsilon_{r,c}$$

where $A = ln\alpha$ and $\varepsilon_{r,c}$ is the error term.

Alternatively, Equation 1 can be written as:

$$\ln \frac{TF_{r,c}}{TA_{r,c}} = A + \overline{K} \ln TA_{r,c} + \varepsilon_{r,c}$$

where $\overline{K} = k - 1$.

The Proportional Law relationship is a straightforward, no-constant model shown in Equation 3.

$$TF_{r,c} = \beta TA_{r,c} + \epsilon_{r,c}$$

with $\epsilon_{r,c}$ the error term.

We estimated both models and chose the Proportional model for Guatemala and Honduras based on model diagnostics tests (AIC adjusted for small sample size). Although AIC tests suggested the Power Law to be a better fit for Mexico as well, the estimated coefficient.

from Equation 2 was not significantly different from zero, implying that the Power Law essentially collapsed back to the Proportional model. The Power Law produced trade finance predictions for non-responding Mexican banks that were unreasonable given the trade finance assets of responding banks that covered 68 percent of Mexico's banking sector assets. Given this, we chose the Proportional model for Mexico as well, as it provided more precise results that were better aligned with expectations.

The Proportional model is estimated using OLS and Maximum Likelihood (ML) (Tobit), with the latter ultimately chosen because it accounts for outcome censoring (either from below, e.g., zero, or from above, ensuring trade finance assets do not exceed the maximum total assets in each country). Tobit is particularly relevant for Guatemala, where four responding banks did not offer trade finance during the reference period. For Mexico and Honduras, since all responding banks offered trade finance, Tobit and OLS essentially yield identical results. We note that although Tobit mitigates the risk of predicting negative trade finance for some non-responding banks, the consistency of the ML estimator improves as the sample size approaches infinity.

Estimated parameters from country-specific Tobit regressions are used to predict the trade finance assets of each non-responding bank (nr) $\widehat{TF_{nr,c}}$ given their total assets.

We calculate uncensored predictions, as they are more aligned with expectations based on the observed trade finance amounts for responding banks. In fact, particularly for Mexico, censored predictions, which account for the probability that observations are censored, yielded unrealistic trade finance predictions for non-responding banks due to high estimated error variance. Given the significant variation in trade finance assets, especially in Mexico and Guatemala, we calculate 90 percent confidence intervals for each $\widehat{TF_{nr,c}}$ based on robust standard errors.

Total bank-intermediated trade and supply chain finance

We compute total bank-intermediated trade and supply chain finance (TSCF) by summing the trade finance assets of responding banks, $TF_{r,c}$ and the estimated trade finance for non-responding banks discussed in Section B1, as shown in Equation 4.

$$\widehat{TF_c^{tot}} = \sum_r TF_{r,c} + \sum_{nr} \widehat{TF_{nr,c}}$$

Subsequently, we estimate the 90 percent confidence intervals for $\widehat{TF_c^{tot}}$ using the lower and upper bounds of $\widehat{TF_{nr,c}}$ calculated earlier. Confidence intervals are also reported for the shares of TSCF to total merchandise trade and to total assets.

Rejected trade finance applications

The value of rejected TSCF applications is estimated based on $\widehat{TF_c^{tot}}$ in Equation 4 and bank-declared rejection rates of trade finance applications. Since $\widehat{TF_c^{tot}}$ is based solely on accepted trade finance applications, it reflects the *conditional* TSCF demand. Thus, we first need to calculate the *full*, *unconditional* demand (TF_c^{uncond}), i.e., the total amount of TSCF businesses would have accessed if no applications were rejected, as shown in Equation 5.

$$TF_c^{uncond} = \frac{\widehat{TF_c^{tot}}}{1-r_c}$$

where r_c is average bank-declared rejection rate. Dividing $\widehat{TF_c^{tot}}$ by $1 - r_c$ adjusts the observed TSCF to reflect the value of rejected trade finance applications.

For each country, the value of rejected applications Gap_c is subsequently computed as the difference between the unconditional demand and the estimated total conditional demand as shown in Equation 6.

$$Gap_c = TF_c^{uncond} - \widehat{TF_c^{tot}}$$

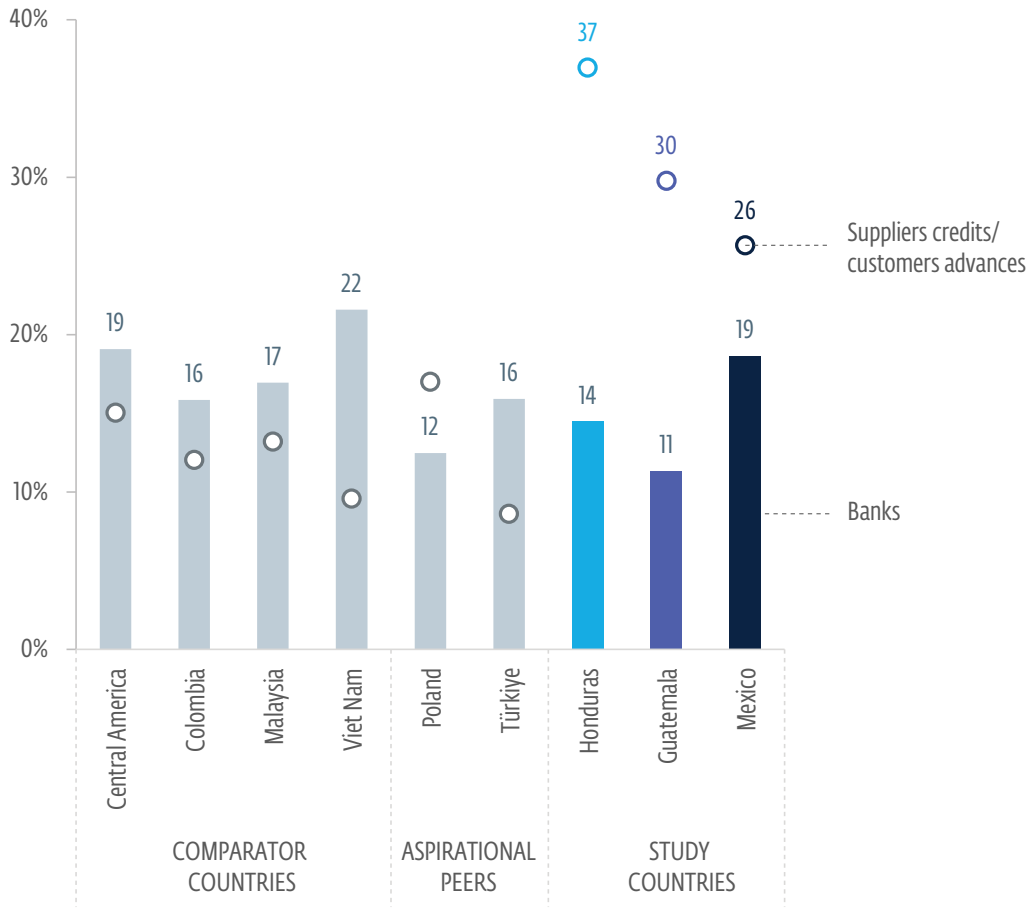
We also report confidence bands for Gap_c and its share of total merchandise trade.

Annex B3

FIGURE B3.1

External Financing for Cross-Border Traders in CAM-3 and Comparators

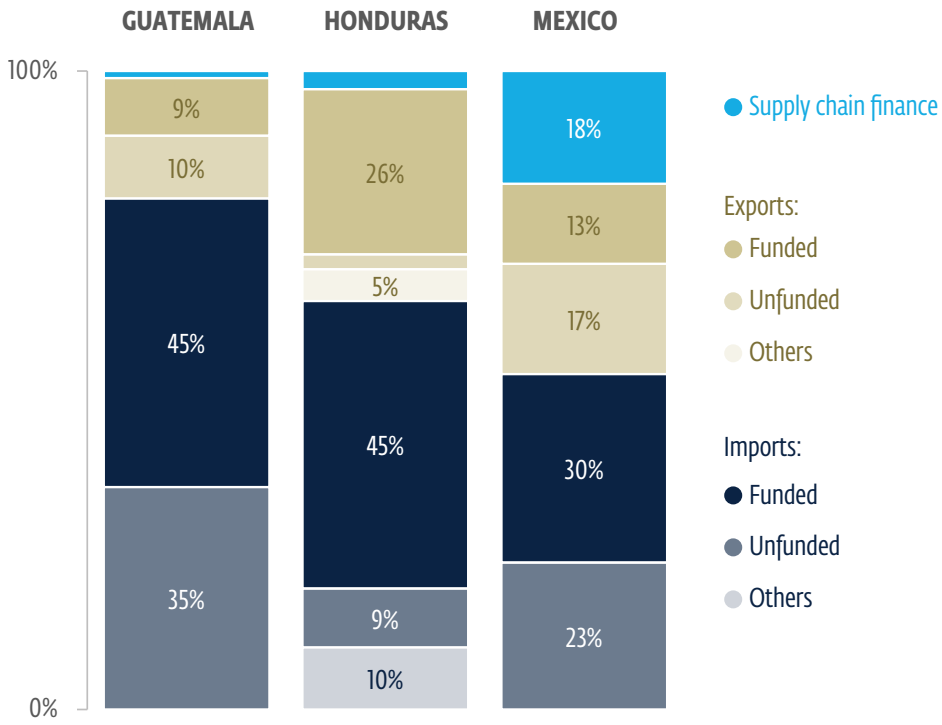
Share of working capital of cross-border traders financed by banks and suppliers/customers



Source: World Bank. We use the latest rounds of World Bank Enterprise Surveys (WBES) implemented in the following years: 2016 (Honduras and Nicaragua), 2017 (Guatemala), 2019 (Malaysia, Poland, Türkiye) and 2023 (Mexico, Viet Nam, El Salvador, and Costa Rica). **Note**: Reported are country averages of predicted shares of working capital financed through bank loans or suppliers' credit/advances from customers from a pooled linear regression on a sample of cross-border traders in the CAM-3 and comparators. Regression controls for sector, business size, gender of business owner, and fixed effects for survey year and country. Central America includes El Salvador, Costa Rica, and Nicaragua–comparators of Honduras and Guatemala with relatively recent WBES data. Comparator countries (except Central America) refer to Mexico.

FIGURE B3.2

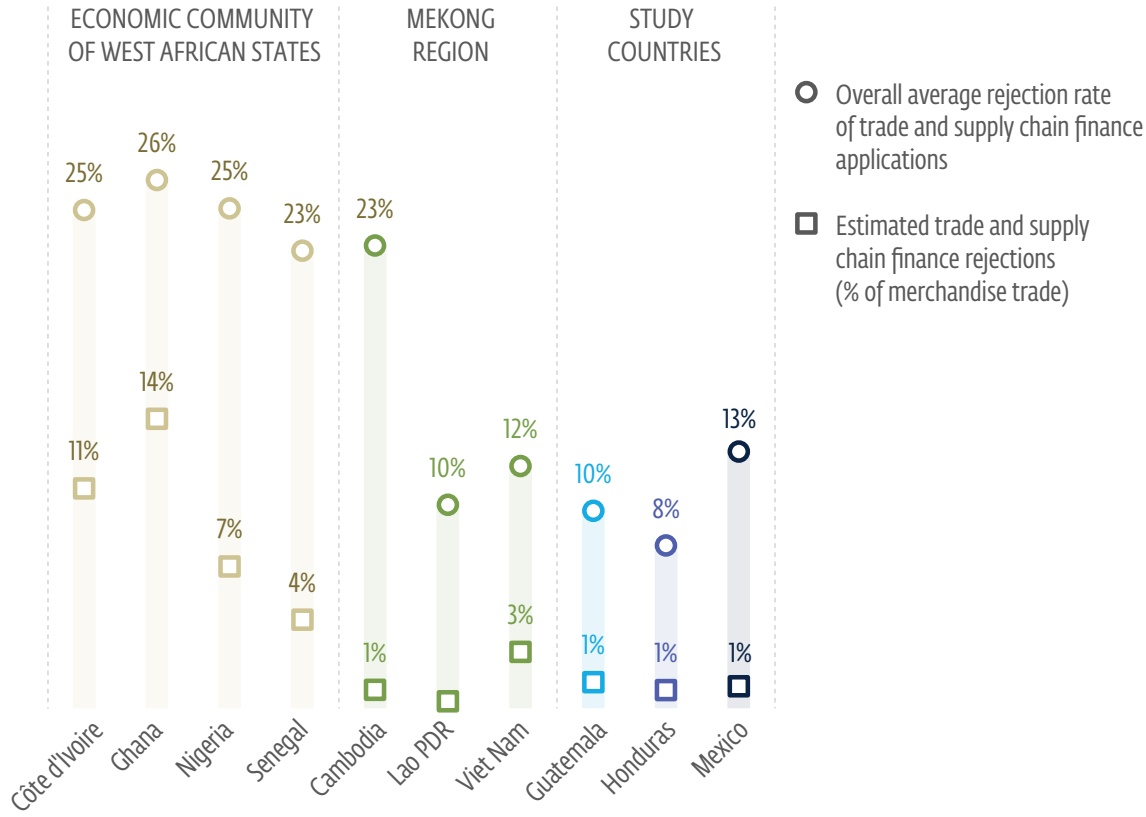
Trade Finance by Activity and Funding Status



Source: 2024 IFC survey. **Note**: "Other" category can consist of trade finance products that combine guarantees with trade loans such as Letter of Credit post financing.

FIGURE B3.3

Estimated Trade Finance Rejections for CAM-3 and Select Comparators



Source: IFC and WTO (2022, 2023), 2024 IFC Bank survey.

TABLE B3.1

Bilateral Goods Trade Between CAM-3 and US in 2023

	Guatemala	Honduras	Mexico
Total (domestic exports + imports)			
Value ($, billions)	13.9	12	725.2
Related trade ($, billions)	3.9	4.2	406.4
Related trade (% total trade)	28%	35%	56%
Domestic exports			
Value ($, billions)	9.05	6.42	252.22
Related trade ($, billions)	2.84	1.59	98.08
Related trade (% domestic exports)	31.4%	24.8%	38.9%
Imports			
Value ($, billions)	4.8	5.5	473
Related trade ($, billions)	1.1	2.6	308.3
Related trade (% imports)	21.7%	46.9%	65.2%

Source: US Census Bureau (2024a). **Note**: Related-party imports refer to import transactions between parties with various types of relationships including "any person directly or indirectly, owning, controlling or holding power to vote, 6 percent of the outstanding voting stock or shares of any organization." (US Census Bureau 2024b) A related-party export between a US exporter and an ultimate consignee refers to a transaction where either party owns at least 10 percent of the other party either directly or indirectly (ibid).

TABLE B3.2

Constraints Facing Banks to Meet Trade Finance Demand

Average by country and bank size, 1 = not a constraint; 5 = top constraint

	Guatemala		Honduras		Mexico	
	Small	**Large**	**Small**	**Large**	**Small**	**Large**
Macroeconomic/political instability	2	2.6	4.3	3	2	2.3
Regulatory constraints	2.5	2.4	3.3	2	2.3	2.7
Internal risk ratings/collateral requirements	2.8	2.4	2.7	3	2.7	2.7
Insufficient liquidity from financial institutions	2.3	1.6	2.5	1.3	1	1
Insufficient liquidity from central bank	1	1.4	4.3	3.3	1	1
Shortage of low-cost funding	3	2.8	3	3.8	1.7	2.3
Inadequate capital to meet clients' needs	2.3	1.8	2.7	1.8	1.7	1
Insufficient tenors from correspondent banking relationship	2.8	1.4	2.7	2.8	2.3	1
Delays in correspondent banking relationship processing	1.8	1.6	2.3	1	3.7	1.7
Insufficient clearing accounts with correspondent banking relationship	1	1	1.5	1	2.3	1
Stringent correspondent banking relationship requirements	1.8	2.2	2	1	3.7	1.3
Insufficient line limits from correspondent banking relationship	3.5	1.4	1	1.8	2.3	1
Lack of information on market segments	2.3	1.4	2	1.8	1	2.3
Limited institutional readiness	2.3	2	2.3	1.8	2.7	3

Source: Source: IFC survey **Note**: For each country, banks are ranked in ascending order based on the share of their bank assets of the total bank assets of the country. The bottom 50 percent of the banks are classified as small while banks in the top 50 percent are classified as large.

Annex C

Counterfactual Analysis

The bank survey contains information on the costs of the different trade finance instruments, the share of trade covered by trade finance, and the shares of the different trade finance instruments for the surveyed countries. This information is combined with international statistics and findings in the literature on costs and shares of trade finance instruments to incorporate the costs of financing international trade, which are thus incorporated in the WTO Global Trade Model (GTM), a computable general equilibrium (CGE) model. The model is then used to simulate the effects of changes in trade costs because of changes in the price and availability of trade finance. This annex describes first the economic model employed, then discusses how trade costs related to financing international trade are modeled, and finally maps out how trade finance shares and the costs of the trade finance instruments are calibrated in the baseline and counterfactuals.

Economic model

The GTM is a quantitative trade model describing the economic interactions between regions. It is designed to provide in-depth insights into the specific impacts of trade policy measures at both the sectoral and national levels. The model accounts for international upstream and downstream linkages between sectors through intermediate production and trade.

The GTM model incorporates three distinct types of final demand: private household expenditure, government spending, and investment. The income of a representative household in each country is allocated to private household expenditures, government expenditures, and savings. Assuming a fixed trade-balance-to-GDP ratio, investment follows savings. The allocation of private household expenditure across sectors adheres to non-homothetic preferences, where the budget shares of certain sectors (primarily essential goods like food and basic manufacturing) decrease as countries become more prosperous. Conversely, the budget shares of other sectors (especially services) increase.

Firms produce with production factors and intermediate inputs, reflecting the presence of intermediate linkages. There are five primary production factors: high-skilled labor, low-skilled labor, capital, land, and natural resources. High-skilled and low-skilled labor, along with capital, are mobile, whereas natural resources are specific to each sector, and land has limited mobility. The model incorporates various taxes, including income taxes, endowment taxes, import tariffs, and export subsidies.

The baseline is calibrated to data from the GTAP Data Base, Version 11c for 2017, projected forward to 2022 using standard techniques described for example in Fontagné et al. (2017) or Bekkers et al. (2024), i.e., imposing population and labor force growth and targeting GDP per capita growth endogenizing productivity growth. A technical description of the model focusing on the code is available in Aguiar et

al. (2019), whereas a description of the model outlining the economic structure in detail is available in Bekkers et al. (2018) and Bacchetta et al. (2025).

Trade is handled through Armington preferences displaying love of variety by country of origin. The expression for the (physical) quantity traded is relevant for the modeling of trade finance from source s to destination d in sector c, following a standard Armington formulation:

$$q_{sdc} = \tau_{sdc}\left(\frac{\tau_{sdc}tx_{sdc}tm_{sdc}tr_{sdc}p_{sc}}{p_{dc}}\right)^{-\sigma_c} q_{dc} \quad \textbf{(1)}$$

With q_{dc} the quantity imported in destination d, p_{sc} the export price in source s, τ_{sdc} iceberg trade costs, tx_{sdc} the export tax rate (in power terms), tm_{sdc} the import tax (in power terms), and tr_{sdc} the (power of) the costs of transport. The costs of trade finance will be incorporated in the import tax, export tax, and iceberg trade costs as discussed in the next subsection.

Trade costs related to financing international trade

The costs of international trade are an important determinant of trade flows and consist of a range of transaction costs incurred in trading goods and services internationally of which the costs of financing international trade are an important component. These financing costs consist of two main components which are intertwined. First, costs associated with the transaction risk that the counterparty will not pay for, or will not deliver, the goods. Second, the financial costs related to the cost of using an instrument mitigating such risks, consisting both of fees to cover risk and capital costs, and to bridge the time when goods are in transit.

The total costs of financing international trade transactions are determined by the instruments employed. The analysis distinguishes between five modes of payment or financing employed, each differing in cost and transactional risk: cash-in-advance (CIA), export or import loans (LOA), supply chain finance (SCF), borrowed working capital used for the purpose of exports (pre-shipment) (INT_WC) and documentary credit, including letters of credit (LCs).

To keep the model tractable, the costs of trade finance are included as a component of trade costs. To do so, both the financial costs and the costs associated with the transaction risk of each of the instruments are expressed as an ad valorem share of the value of trade. The total trade costs associated with the financing of international trade are then expressed as a value-weighted average of both types of costs over each of the instruments. The two types of costs of each of the instruments and the baseline shares are based on the questionnaire (for the surveyed countries), data from international institutions, and data available in the academic literature, as further detailed below.

The financial costs paid by importers and exporters are modeled as respectively import and export taxes. This is a good approximation of a more detailed model incorporating an explicit banking sector to which trading firms would pay the financial costs given that the model features a consolidated representative household collecting both factor income and tax income. The reason is that changes in the costs of trade finance can be seen as changes in profit margins of the banking sector. Hence, the financial costs can be seen as a rent/profit collected by the banking sector and thus as an import/export tax collected by the representative household.

The costs associated with the transaction risk are modeled partially as an import/export tax and partially as an iceberg trade cost. The share of goods lost in trade calculated based on default rates is modeled as an import tax for the importer or an export tax for the exporter. Hence, the goods lost in transactions are modeled as a tax paid by one party to the other (the importer paying a tax to the representative household for example). Furthermore, the costs associated with risk aversion are modeled as a resource loss for agents involved in international trade in the form of an iceberg trade cost.

Limitations of the framework

The annex will first describe the calibration of the costs of each of the instruments and then the shares of the different trade finance instruments. Before turning to the details of the calibration three remarks are in order about the potential limitations of the framework employed, First, in the counterfactual experiments the shares of trade finance instruments and their costs are changed exogenously. Obviously, both these shares and costs are endogenous in the real world and driven by a variety of factors. However, modeling these shares and costs endogenously is beyond the scope of this report and would require extending the trade-oriented model with a full-blown financial sector. Such an exercise would be more complicated than most analyses of trade finance in the literature, given the comprehensive nature of the study, including most trade finance instruments.

Second, in the framework the financial costs associated with different instruments to finance international trade transactions vary, based on data collected in the survey and other data on lending rates. Accordingly, there is no perfect substitutability between the different instruments equalizing financing costs. This reflects that there are differences in the degree of risk driven by among others, differences in borrowing constraints related to the extent to which collateral is available and to which payments are guaranteed by third parties (like a bank in case of LCs). However, these factors are not explicitly modeled.

Third, due to the unavailability of data, variation in the assumed costs and shares of trade finance instruments across sectors and non-surveyed countries is limited and for sectors only related to foreign affiliate sales and related-party trade shares.

Hence, the listed limitations do not invalidate the analysis conducted. For a more detailed analysis the necessary data is lacking. Going into further detail would be mainly useful for a more detailed analysis of the policy interventions possible to raise both the coverage of trade finance and reduce their costs. The current analysis instead takes these costs as given.

The costs of trade finance

The two types of costs (the costs of funds and the costs associated with risk) are now described for each of the four ways to finance international trade. We start, however, with an exposition of the way the costs associated with risk are modeled.

Integrating risk aversion in the model

If traders are risk averse the costs associated with risks of the transaction tend to be larger than the share of goods not arriving at the destination. The reason is that the expected utility of a set of risky outcomes is lower than the utility of the expected (average) outcome (Jensen's inequality). Hence, the costs associated with risk can be expressed as a function of the probability that goods do not arrive, or importers do not pay for goods shipped. A transaction has a good outcome of 1 with probability $1-p$. The transaction has a bad outcome of 0 (meaning for an importer that the product is not received after paying for the goods, or the payment never occurs after an exporter shipped the goods) with a probability p. The costs associated with the risk are equal to the utility loss because of the risk. This loss is equal to the good outcome of 1 minus the certainty equivalent, which is defined as the certain value for which the agent is indifferent between engaging in the transaction or accepting this lower certain value.

As discussed above, the costs of risk (the probability that goods get lost or payments are not made) are modeled as an import tax for the importer and an export tax for the exporter, whereas the costs associated with risk aversion are modeled as a resource loss for agents involved in international trade in the form of an iceberg trade cost. Hence, these two types of costs are separated in the analysis.

To calculate the costs associated with risk, a constant relative risk aversion (CRRA) utility function is assumed for agents involved in international trade with γ the CRRA parameter:

$$U(x) = \frac{x^{1-\gamma}}{1-\gamma} \quad \textbf{(2)}$$

We can calculate the certainty equivalent of the transaction, CE, as follows with p the probability of a bad outcome (goods not arriving):

$$u(CE) = E(u(x))$$
$$u(CE) = p^{*}u(0) + (1-p)^{*}u(1)$$
$$\frac{CE^{1-\gamma}}{1-\gamma} = (1-p)^{*}\frac{1^{1-\gamma}}{1-\gamma}$$

Hence, the certainty equivalent is given by:

$$CE = (1-p)^{\frac{1}{1-\gamma}} \quad \textbf{(3)}$$

Having obtained the certainty equivalents (the certain value for which the agent is indifferent between engaging in the transaction or accepting this lower certain value), we can calculate the costs associated with risk aversion, CRA, as the difference between the expected value shipped and the certainty equivalent:

$$CRA = 1 - p - CE = 1 - p - (1-p)^{\frac{1}{1-\gamma}} \quad \textbf{(4)}$$

The total costs associated with risk, TCR, can be written as the sum of the costs of risk, i.e., the probability that goods get lost, CR, and the costs associated with risk aversion, CRA:

$$TCR = CR + CRA = p + 1 - p - (1-p)^{\frac{1}{1-\gamma}} = 1 - (1-p)^{\frac{1}{1-\gamma}} \quad \textbf{(5)}$$

As shown in Conine et al. (2017), the formulation of risk aversion with a constant relative risk aversion (CRRA) parameter has been largely used in the financial and macroeconomic literature, with a large interval of values. Studies focusing on risky assets markets have privileged estimates of the CRRA above 3. Azar (2006) finds calibrated CRRAs between 4.2 and 5.4 in a study mimicking the US stock market. A large literature focusing on labor supply chose instead values of CRRA below one, such as Chetty (2006) choosing a coefficient of 0.7. Employing this value for real economy applications instead of financial markets generates intuitive values for the costs associated with risk in the model.

Cash-in-advance

Under this payment option, the importer pre-finances the exporter's cash needs, while incurring the risk that goods would not be delivered. Therefore, the importer bears both a transactional risk and a financial cost linked to using own funds to make the payment. Under cash-in-advance (CIA), exporters do not incur financial costs or costs associated with risk since they would ship the goods only upon receipt of the payment. The costs of using CIA in sector c from source (exporter) s to destination (importer) d thus consists of the costs of financing the transaction by the importer, CF_d^{cia}, the cost of risk in the destination, CR_d^{cia}, the costs of risk aversion in the destination, CRA_d^{cia}.

The latter two can be written as the probability that goods are not delivered, ND_d^{cia}:

$$CR_d^{cia} = ND_d^{cia} \quad (6)$$

$$CRA_d^{cia} = 1 - \left(1 - ND_d^{cia}\right)^{\frac{1}{1-\gamma}} \quad (7)$$

Import and export loans

Import and export loans are trade finance instruments which can be used to address the liquidity needs for both importers and exporters until they have to pay, or they get paid. The financial cost of loans is the interest rates on the loans. With a pre-export shipment loan, the exporter also incurs the risk of not being paid—this risk is not mitigated by the loan itself. The import loan does not mitigate or alleviate the risk of not receiving the merchandise (only an LC would do that), so the importer similarly bears the risk of not receiving the goods.

Hence, the costs of an import loan (export loan) consist of the costs of financing of an import loan, $CF_d^{loa,imp}$ (export loan, $CF_s^{loa,exp}$), the costs of risk, $CR_d^{loa,imp}$ ($CR_s^{loa,exp}$), and the costs of risk aversion, $CRA_d^{loa,imp}$($CRA_d^{loa,exp}$), which can be expressed as the probability that goods are not delivered:

$$CRA_d^{loa,trad} = 1 - \left(1 - ND_d^{loa,trad}\right)^{\frac{1}{1-\gamma}}; trad = imp, exp \quad (8)$$

$$CR_d^{loa,trad} = ND_d^{loa,trad}; trade = imp, exp \quad (9)$$

Supply chain finance

The survey indicates that the share of supply chain finance (SCF) provided by domestic financial institutions in Guatemala and Honduras is small, where it is more sizeable (almost 20 percent of all trade finance) in Mexico. SCF is similar in structure to loans provided to the exporter. The exporter accepts a discount which from a cost perspective is similar to interest paid on loans. The difference is that the risk is transferred to the provider of SCF who pays immediately but at a discount. Hence, from the perspective of the exporter only the costs of funds are paid, CF_d^{scf}.

Borrowed working capital used for the purpose of exports

In the absence of the availability of a pre-shipment export loan, an exporter can also decide or be constrained to finance the process of production for the purpose of exporting. Upon order, the exporter would typically receive a small advance from the buyer. In this case, the whole production and shipment cycle would have to be financed, including inputs purchase, salaries, machinery, packaging and shipping, before receiving its export receipt. By doing so, the exporter incurs the opportunity cost of using capital to produce the goods, and the transactional risk of sending the goods before the payment.

Hence, the costs of borrowed working capital used for the purpose of exports consist of the costs of financing borrowed working capital, $CF_s^{int\_wc}$, the costs of risk, $CR_s^{int\_wc}$, and the costs of risk aversion, $CRA_s^{int\_wc}$ with the latter two being a function of the probability that goods are sent and no payment is received, $ND_s^{int\_wc}$:

$$CR_d^{\text{int\_wc}} = ND_d^{\text{int\_wc}} \quad \textbf{(10)}$$

$$CRA_d^{\text{int\_wc}} = 1 - \left(1 - ND_d^{\text{int\_wc}}\right)^{\frac{1}{1-\gamma}} \quad \textbf{(11)}$$

Letters of credit and other documentary credit

Finally, LCs are a payment guarantee in case of importer's default. An Issuing Bank (IB) commits to pay for the transaction if the importer is unable to pay. A confirming Bank (CB) in the exporter's region could also bear the final payment risk if the IB cannot pay either. To open an LC, the importer incurs an opening fee to the IB, and the exporter pays a confirmation fee to the CB. Only if the exporting region is considered riskier than the importing region confirmation is needed.

While being a guarantee of future payment after delivery, the LC does not provide the exporter the required liquidity to produce and ship the goods. In other words, it is not a substitute for a pre-shipment loan. The exporter would continue, under an LC, to face an opportunity cost of using its own funds for this purpose. However, there is no cost associated with the transactional risk under an LC. Instead opening and confirming fees are paid by, respectively, the importer and the exporter.

Hence, the total trade finance costs of using an LC consist of the costs of financing in the source country, CF_s^{lc} consisting of the capital costs for sending the goods before payment is received, the LC opening fee, OPF_d^{lc}, and the LC confirmation fee, COF_d^{lc} if the destination country d is considered riskier than the source country s. For an importer from the Economic Community of West Africa States (ECOWAS), LC costs include the opening fee, since the costs of financing the transaction are borne by the exporter.

Writing trade costs as a function of the costs of trade finance

Employing data on the shares of the five ways to finance international trade, the import tax, export tax, and iceberg trade costs associated with the costs of financing international trade from source s to destination d in sector c can be written as follows:

$$exptax_{sdc} = sh_{sdc}^{lc}\left(CF_s^{lc} + COF_s^{lc} RR_{sd}\right) + sh_{sdc}^{loa,exp}\left(CF_s^{loa,exp} + ND_d^{loa,exp}\right) \quad \textbf{(12)}$$

$$+ sh_{sdc}^{int\_wc}\left(CF_d^{int\_wc} + ND_d^{int\_wc}\right) + sh_{sdc}^{scf} CF_d^{scf} \quad \textbf{(13)}$$

$$imptax_{sdc} = sh_{sdc}^{lc} OPF_d^{lc} + sh_{sdc}^{loa,imp}\left(CF_d^{loa,imp} + ND_d^{loa,imp}\right) + sh_{sdc}^{cia}\left(CF_d^{cia} + ND_d^{cia}\right)$$

$$itc_{sdc} = \sum_{i\in\{exp,loa;int\_wc\}} sh_{sdc}^{i}\left(1 - \left(1 - ND_s^{i}\right)^{\frac{1}{1-\gamma}}\right) + \sum_{i\in\{imp,loa;cia\}} sh_{sdc}^{i}\left(1 - \left(1 - ND_s^{i}\right)^{\frac{1}{1-\gamma}}\right) \quad \textbf{(14)}$$

With RR_{sd} a dummy for the relative riskiness of source s and destination d equal to 1 if destination d is riskier than source s. This dummy is included to reflect that an import LC issued in a lower-risk country generally does not need to be confirmed by the bank in the higher-risk country. Hence, the LC confirmation fee is only paid on the export side when destination d is riskier than source s. The shares of the different instruments vary by sector as further detailed blow. By lack of data the costs of the different instruments do not display sectoral variation.

Calibration of costs

Since there are five ways to finance international trade and two types of costs for most ways to finance trade (the costs of funds and the costs associated with risk), thereby requiring five times two sets of trade costs to be calibrated.

Costs associated with risk

To calculate the costs associated with risk we need data on the share of non-delivery or non-payment, ND, for the different financial instruments. To do so, we employ data from various sources on the probability of default on loans as a proxy. For cash-in-advance and internal working capital for exports ND is based on the share of bank nonperforming loans (NPLs) to total gross loans from the International Monetary Fund (IMF).[37] For import and export loans ND is based on ICC Obligor-weighted export and import loans default rates (ICC 2019). These import and export loan default rates are based on the ICC trade register.

Financial costs

Data on the costs of finance, CF, come from the surveyed countries and from data provided by international organizations and available in the academic literature. The two groups of countries are discussed separately.

Surveyed countries

a. The costs of financing for export and import loans, $CF_s^{loa,exp}$ and $CF_d^{loa,imp}$, are based on survey answers calculated as a simple average of the costs of funds across different banks employing estimates of the average interest rate.

b. The financing costs of SCF, CF_s^{scf}, are based on survey answers on the SCF discount rate, employing simple averages reported across banks.

c. The costs of financing for cash-in-advance and exports with internal working capital, CF_d^{cia} and $CF_s^{int\_wc}$, are for the surveyed countries assumed to be equal to the cost of trade loans multiplied

37 International Monetary Fund, Financial Soundness Indicators. "Bank nonperforming loans to total gross loans. 2023."

by a factor of two. This assumption is motivated by the fact that the survey answers combined with other data indicate that the interest rates for microfinance are at least twice as large as for trade loans. More specifically, for Guatemala the costs of import and export loans are between 7.1 percent and 9.8 percent, whereas literature suggests that microfinance rates are approximately 19 percent (Diaz and Castillo 2022) or more than 25 percent (Pedroza & Navajas 2010). The survey indicates that in Honduras the costs of import and export loans oscillate between 7.6 percent and 9.3 percent. Microfinance rates reported in the literature are more than 25 percent (Pedroza & Navajas 2010). Finally, in Mexico import and export loan rates are between 12.2 percent and 14.6 percent, whereas literature indicates that microfinance rates are as high as 75 percent (IFC et al. 2017) or even more than 90 percent (Pedroza & Navajas 2010). In light of these numbers a ratio of 2 is on the cautious side.

d. The LC opening and confirmation fees, OPF_s^{lc} and COF_d^{lc}, are based on survey answers for the three surveyed countries.

e. The cost of funds for using LCs for an exporter, CF_s^{lc}, are calculated by multiplying the costs of financing for cash-in-advance/internal working capital for each region by the ratio of the risk on export/import LCs- measured by the average default rate on export and import LCs from ICC (ICC 2019), ND_s^{lc}, and the average default rate on cash-in-advance/internal working capital measured as the share of NPLs also employed above, ND_s^{cia}:

$$CF_s^{lc} = \frac{ND_s^{lc}}{ND_s^{cia}} CF_s^{cia} \quad \textbf{(15)}$$

Therefore, the cost of funds for LCs is lower than for cash-in-advance and working capital, reflecting the fact that LCs are less risky.

Non-surveyed countries

a. The LC opening and confirmation fees, OPF_d^{lc} and COF_s^{lc} are based on average OECD fees based on IFC research.

b. The costs of financing for cash-in-advance and internal working capital, $CF_d^{loa,imp}$ and $CF_s^{loa,\exp}$, are based on lending rates from the IMF.

c. To obtain the costs of financing of import and export loans, $CF_d^{loa,imp}$ and $CF_s^{loa,\exp}$, and of SCF, CF_s^{scf}, the costs of financing for cash-in-advance/internal working capital based on lending rates from the IMF are scaled down by a factor of two reflecting that interest rates for microfinance are approximately twice as large as for trade loans as discussed for the surveyed countries.

d. The cost of funds for using LCs for an exporter, CF_s^{lc}, are calculated in the same way as for surveyed countries, using equation (15).

Calibration of trade finance shares

Since there are five ways to finance international trade in the model, four shares have to be calibrated for region s: the shares of import loans, $sh_s^{loa,imp}$, export loans, $sh_s^{loa,\exp}$, SCF, sh_s^{scf}, LCs, sh_s^{lc}, internal working capital, $sh_s^{int_wc,\exp}$, and cash-in-advance, sh_s^{cia}. The analysis proceeds in two steps to obtain the shares of trade finance. First, insights from the survey and from the literature are employed to obtain trade finance shares at the country level. Second, data on the shares of foreign-owned firms and related-party trade per sector are employed to introduce sectoral variation in the trade finance shares.

Aggregate trade finance shares

The aggregate trade finance shares are calculated as follows for respectively the surveyed and other regions:

Surveyed countries:

a. The share of trade covered by all trade finance (LC and import/export loans), sh_s^{tf}, is calculated based on the data in the survey providing the amount of trade finance relative to the value of merchandise trade (sum of exports and imports) with the amount of trade finance corrected for non-response. The analysis assumes that there is no trade finance in services, since there is not much trade finance covering services. Most trade finance products (and related legal rules) were designed for having the goods as collateral. The shares of individual trade finance instruments (import loans, export loans, LCs) are also given by the survey. Since the shares of trade finance are expressed in the model as a share of respectively exports and imports, whereas the share of trade finance is a share of the sum of exports and imports in the survey, we need to multiply by $1/sh_imp$ and $1/(1-sh_imp)$ in the formula to obtain the shares of import loans and LCs in the importer (destination d) and the share of export loans in the exporter (source s):

$$sh_d^{loa,imp} = sh_d^{loa,imp,sur} * \frac{1}{sh\_imp_d} * sh_d^{tf} \quad \textbf{(16)}$$

$$sh_d^{lc} = sh_d^{lc,sur} * \frac{1}{\text{sh\_imp}_d} * sh_d^{tf} \quad \textbf{(17)}$$

$$sh_s^{loa,\exp} = sh_s^{loa,\exp,sur} * \frac{1}{1-\text{sh\_imp}_s} * sh_s^{tf} \quad \textbf{(18)}$$

$$sh_s^{scf} = sh_s^{scf,\text{sur}} * \frac{1}{1-\text{sh\_imp}_s} * sh_s^{tf} \quad \textbf{(19)}$$

Multiplying these shares by respectively imports and exports and adding up, the baseline amount of trade finance in the model is equal to the amount of trade finance, TF_s, in the survey:

$$\begin{aligned} TF_s &= sh_s^{loa,imp,sur} * \tfrac{1}{sh\_imp_s} * sh_d^{tf} * imp_s \\ &+ \left(sh_s^{lc,sur} + sh_s^{loa,exp,sur} + sh_s^{scf,sur} \right) * \tfrac{1}{1-\text{sh\_}imp_s} * sh_s^{tf} * exp_s \\ &= \left(sh_s^{loa,imp,sur} + (sh_s^{lc,sur} + sh_s^{loa,exp,sur} \right)) * sh_s^{tf} * \left(imp_s + exp_s \right) \\ &= sh_s^{tf} * (imp_s + exp_s) \end{aligned} \quad \textbf{(20)}$$

b. The share of trade covered by internal working capital and cash-in-advance are assumed to be respectively 80 percent and 20 percent of the remaining share for exports from source $s = gtm, hnd, mex$ to destination $d \neq gtm, hnd, mex$, reflecting that firms from a developing country have less market power vis-a-vis their trading partners:

$$sh_s^{int\_wc} = 0.8 \left(1 - sh_s^{loa,imp} - sh_s^{lc} - sh_s^{loa,\exp} - sh_s^{scf} \right) \quad \textbf{(21)}$$

$$sh_d^{cia} = 0.2 \left(1 - sh_d^{loa,imp} - sh_d^{lc} - sh_d^{loa,\exp} - sh_s^{scf} \right) \quad \textbf{(22)}$$

Furthermore, it is assumed that respectively 20 percent and 80 percent of the remaining share for imports into destination $d = gtm, hnd$ and $s \neq gtm, hnd$ are allocated to internal working working capital and cash-in-advance, whereas for imports into Mexico it is assumed that the residual shares of internal working capital and cash-in-advance are equal (at 50 percent):

$$sh_s^{int\_wc} = 0.2 \left(1 - sh_s^{loa,imp} - sh_d^{lc} - sh_s^{loa,\exp} \right) \quad \textbf{(23)}$$

$$sh_d^{cia} = 0.8 \left(1 - sh_d^{loa,imp} - sh_d^{lc} - sh_d^{loa,\exp} \right) \quad \textbf{(24)}$$

Non-surveyed countries

a. The share of trade covered by LC, sh_s^{lc}, is based on trade between the US and region s reported in Niepmann and Schmidt-Eisenlohr (2017):[38]

$$sh_s^{lc} = sh_{sUSA}^{lc} \quad \textbf{(25)}$$

b. The share of trade covered by import loans and export loans is equal to the share of trade covered

38 To obtain numbers for aggregate regions, trade-weighted averages are employed.

by LCs based on data in ADB (2022) indicating that LCs and import plus export loans have approximately an equal share in total trade finance:

$$\begin{aligned} sh_s^{loa,\exp} &= 0.5 sh_{sUSA}^{lc} \\ sh_s^{loa,imp} &= 0.5 sh_{sUSA}^{lc} \end{aligned} \quad \textbf{(26)}$$

Furthermore, BIS (2014) reports a global coverage of trade by trade finance of 60 percent.[39] Accordingly the share of trade finance in non-surveyed countries is rescaled to get to a 60 percent coverage of trade finance.

c. The share of trade covered by SCF is assumed to be zero in low-income countries. In lower and upper middle-income countries, the share is determined by the ratio of export loans to SCF in respectively Honduras and Guatemala and in Mexico. For high-income countries it is assumed that the ratio of SCF to export loans is two times as high as in Mexico.

d. Between non-surveyed countries the share of trade covered by internal working capital and cash-in-advance are each 50 percent of the remaining share:[40]

$$sh_s^{int\_wc,\exp} = 0.5\left(1 - sh_s^{tf}\right) \quad \textbf{(27)}$$

$$sh_s^{cia,imp} = 0.5\left(1 - sh_s^{tf}\right) \quad \textbf{(28)}$$

Sectoral trade finance shares considering foreign-owned firms and related-party trade

We should take into account that the share of local trade finance is expected to be a function of the share of sales by foreign-owned firms and the share of related-party trade.[41] The crucial reason to embark on this exercise is to make sure that the share of local trade finance in the counterfactual cannot rise if the trade by foreign-owned firms is financed by foreign banks (offshore financing).

39 BIS (2014). Trade Finance: Developments and Issues. Technical Report, Bank for International Settlements. https://www.bis.org/publ/cgfs50.htm (accessed May 17, 2018). These estimates are related to goods only. BIS estimated that bank-intermediated trade finance accounted for $6.5 trillion to $8 trillion of trade in goods in 2011. In that year, overall trade in goods accounted for $18 trillion of trade. However, BIS did not account for trade credit insurance as well as supply chain finance (SCF), nor open account that could be subject to financing. While $8 trillion out of $18 trillion would be less than 50 percent coverage, inclusion of SCF and a certain share of the $2.5 trillion in credit insurance would lead to a global trade and supply chain finance coverage of at least 60 percent.

40 This assumption is inconsequential for the working of the model since trade costs between non-surveyed countries are not modified in the counterfactuals.

41 We only incorporate adjustments for trade between s=gtm,hnd,mex and trading partners, because only for these trade flows counterfactuals will be implemented.

The shares of trade finance from s to d add up to 1 in the model:

$$sh_s^{lc} + sh_s^{loa,\exp} + sh_s^{int\_wc,\exp} + sh_s^{scf} + sh_d^{lc} + sh_d^{loa,imp} + sh_d^{cia,imp} = 1 \quad (29)$$

Given that data are available on the share of exports and imports by foreign-owned firms, sh_{sc}^{fo}, we can split exports and imports up into two components, exports/imports by domestic and by foreign-owned firms and calculate the share of trade finance for each of these. For sales by domestically-owned firms, we use the same approach as above, provided in equations (16)-(28).

On exports from region $s = gtm, hnd, mex$ in sector c by foreign-owned firms, the share of domestic trade finance is scaled down by a factor $sc\_for_{sc}^{sur}$ (the superscript sur stands for surveyed countries) relative to the share of trade finance provided by domestically-owned firms:

$$sh_{sc}^{loa,\exp,fo} = sc\_for_{sc}^{sur} * sh_s^{loa,\exp} \quad (30)$$

$$sh_{sc}^{scf,fo} = sc\_for_{sc}^{sur} * sh_s^{scf} \quad (31)$$

The use of internal working capital and cash-in-advance on exports by foreign-owned firms from $s = gtm, hnd, mex$ is also scaled down with foreign-owned firms instead employing trade finance in the destination market in the form of offshore financing (either import loans in destination $d \neq gtm, hnd, mex$ or LCs from destination $d \neq gtm, hnd, mex$):

$$sh_{sc}^{int\_wc,fo} = sc\_for_{sc}^{nsur} * sh_s^{int\_wc} \quad (32)$$

$$sh_{dc}^{cia,fo} = sc\_for_{sc}^{nsur} * sh_d^{cia} \quad (33)$$

The shares of (offshore) trade finance provided by destination d≠gtm,hnd,mex are adjusted to make sure that shares add up to 1:

$$sh_{dc}^{loa,imp,fo} = \frac{sh_d^{loa,imp}}{sh_d^{loa,imp} + sh_d^{lc}} \left(1 - sh_{sc}^{loa,\exp,fo} - sh_{sc}^{scf,fo} - sh_{sc}^{int\_wc,fo} - sh_{dc}^{cia,fo}\right) \quad (34)$$

$$sh_{dc}^{lc,fo} = \frac{sh_d^{lc}}{sh_d^{loa,imp} + sh_d^{lc}} \left(1 - sh_{sc}^{loa,\exp,fo} - sh_{sc}^{scf,fo} - sh_{sc}^{int\_wc,fo} - sh_{dc}^{cia,fo}\right) \quad (35)$$

Equivalently, on imports into region $d = gtm, hnd, mex$ in sector c, the share of domestic trade finance and cash-in-advance is scaled down by the same factor:

$$sh_{dc}^{loa,imp,fo} = sc\_for_{sc}^{sur} * sh_d^{loa,imp} \quad (36)$$

$$sh_{dc}^{lc,fo} = sc\_for_{dc}^{sur} * sh_d^{lc} \quad (37)$$

$$sh_{dc}^{cia,fo} = sc\_for_{dc}^{sur} * sh_d^{cia} \quad (38)$$

And the shares of (offshore) trade finance and the share of internal working capital provided by source $s \neq gtm, hnd, mex$ are adjusted to make sure that shares add up to 1:

$$sh_{sc}^{loa,\exp,fo} = \frac{sh_s^{loa,\exp}}{sh_s^{loa,\exp}+sh_s^{iwc}}\left(1 - sh_{dc}^{loa,imp,fo} - sh_{dc}^{lc,fo} - sh_{dc}^{cia,fo}\right) \quad \textbf{(39)}$$

$$sh_{sc}^{iwc,fo} = \frac{sh_s^{iwc}}{sh_s^{loa,\exp}+sh_s^{iwc}}\left(1 - sh_{dc}^{loa,imp,fo} - sh_{dc}^{lc,fo} - sh_{dc}^{cia,fo}\right) \quad \textbf{(40)}$$

The scaling factor $sc\_for_{sc}^{sur}$ is defined as the share of trade financed with local trade finance in the surveyed countries for trade by foreign-owned firms relative to domestic firms. It is determined by the share of related-party imports/exports in total imports/exports of foreign-owned firms with $sc\_for_{sc}^{sur}$ inversely related to this share.[42] Hence, when the share of related-party trade is larger, the share of trade employing offshore financing is larger and the share employing local trade finance is thus smaller. Besides sectoral variation in $sc\_for_{sc}^{sur}$ determined by the share of related-party trade in trade by foreign-owned firms, there is also country-level variation in $sc\_for_{sc}^{sur}$ set equal to a factor 0.5 based on evidence from the firm-level survey that foreign firms are twice less likely to use domestic trade finance:

$$sc\_for_{sc}^{sur} = 0.5 sc\_forsec_{c}^{sur} \quad \textbf{(41)}$$

Finally, the initial parameter for the share of trade covered by trade finance, sh_d^{tf}, is adjusted to make sure that the trade-weighted average of trade finance provided by domestic financial institutions is equal to the values in the survey, respectively 10.3 percent, 12 percent, and 7.5 percent for Honduras, Guatemala, and Mexico.

Construction of counterfactuals

In Scenario 1 the coverage of trade by trade finance instruments is doubled. To obtain this change, the overall share of trade finance, sh_s^{tf} in equations (16)-(18) is increased until the trade-weighted average of trade (exports plus imports) covered by trade finance instruments is twice as high. When the share of trade finance instruments increases, the shares of other instruments (cash-in-advance and internal working capital) fall proportionally. However, for some sector-importer-exporter combinations this would imply that shares would become negative. Therefore, the shares of domestic and foreign trade finance are reduced to make sure that shares always add up to 1.

42 The share of trade by foreign-owned firms is based on the WTO database on foreign affiliate sales employing Eurostat FATS, OECD AMNE and national sources consolidated with the GTAP Data Base for 2017 (https://www.wto.org/spanish/res_s/reser_s/invest_related_db_s.htm#asrd). The share of related-party trade US data is proxied by shares of related-party trade between the US and the surveyed countries: https://www.census.gov/foreign-trade/Press-Release/related_party/index.html

In Scenarios 2 and 3, respectively, LC fees are reduced to the level of China and the costs of financing for import and export loans and LCs are reduced employing a double differencing approach. The difference between the costs of financing and the interbank rates are reduced to 50 percent of this difference on average globally in the model. Scenario 4 combines the shocks from Scenarios 1, 2, and 3.

Annex Figure C1.1 displays the share of trade financed with the different trade finance and non-trade finance instruments in both the baseline and the counterfactuals 1 and 2. The figure makes clear for example that the expansion of SCF is larger in Mexico than in the other two countries in the study, since the initial share of SCF is larger relative to the other instrument on the export side (export loans).

Robustness checks

Robustness checks were carried out on two assumptions on which there is limited empirical evidence. First, while the survey data provide information on the proportion of trade covered by trade finance instruments, they do not specify how the remaining trade is distributed between cash-in-advance and internal working capital. In the baseline scenario, it is assumed that 80 percent of imports into Guatemala and Honduras not covered by trade finance are financed through cash-in-advance, with the remaining 20 percent financed by internal working capital. For Mexico the ratio is 50/50 on the import side. For exports from these countries, the assumptions are reversed, with 20 percent financed by cash-in-advance and 80 percent by internal working capital. For trade with other regions, the shares are assumed to be equally 50/50 split. A robustness check was conducted by assuming a 50 percent split for both exports and imports of Guatemala, Honduras, and Mexico.

Second, empirical evidence from the literature supports the assumption that the financing costs associated with cash-in-advance and internal working capital are approximately twice as high as the financing costs for import and export loans in the surveyed countries. For other regions, the same assumption is applied, namely that the interest rates on trade finance instruments are half of those for alternative financing methods. However, in these regions, lending rate data for other financing forms are available (from IMF sources), allowing the trade finance costs to be calculated by halving these lending rates. Two robustness checks are conducted: one reducing the premium to 1.5 and the other increasing it to 2.5.

Annex Figure C1.2 demonstrates that adjusting the share of cash-in-advance and internal working capital has a relatively small effect on the results. With an even 50/50 split, both export and import projections are lower than the benchmark, as the scope for increasing trade finance is reduced. This happens because trade finance is being substituted for both cash-in-advance and internal working capital. In contrast, with an 80/20 split, there is more room to expand trade finance.

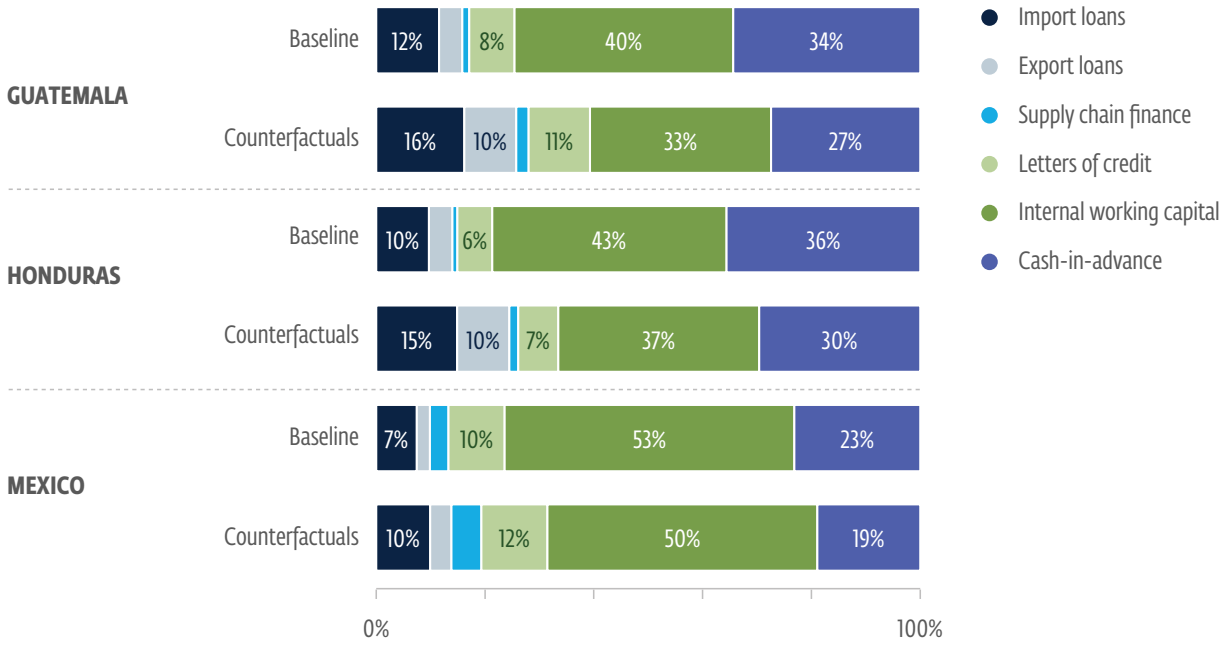
Looking at imports to the surveyed countries, the benchmark (which assumes 80/20) indicates more reliance on cash-in-advance, suggesting that this can be replaced with trade finance. For exports, the surveyed countries rely more on internal working capital (20/80 split in the benchmark), meaning there is more opportunity to replace this with trade finance. This split is logical because exports from Guatemala and Honduras to more developed regions typically use less cash-in-advance, while imports to the surveyed countries show greater reliance on cash-in-advance.

The next set of robustness checks shows that narrowing the gap between financing costs for trade

FIGURE C1.1

Share of Trade Financed by Different Trade Finance and Non-Trade Finance Instruments

Baseline and Counterfactuals 1 and 2 Scenarios

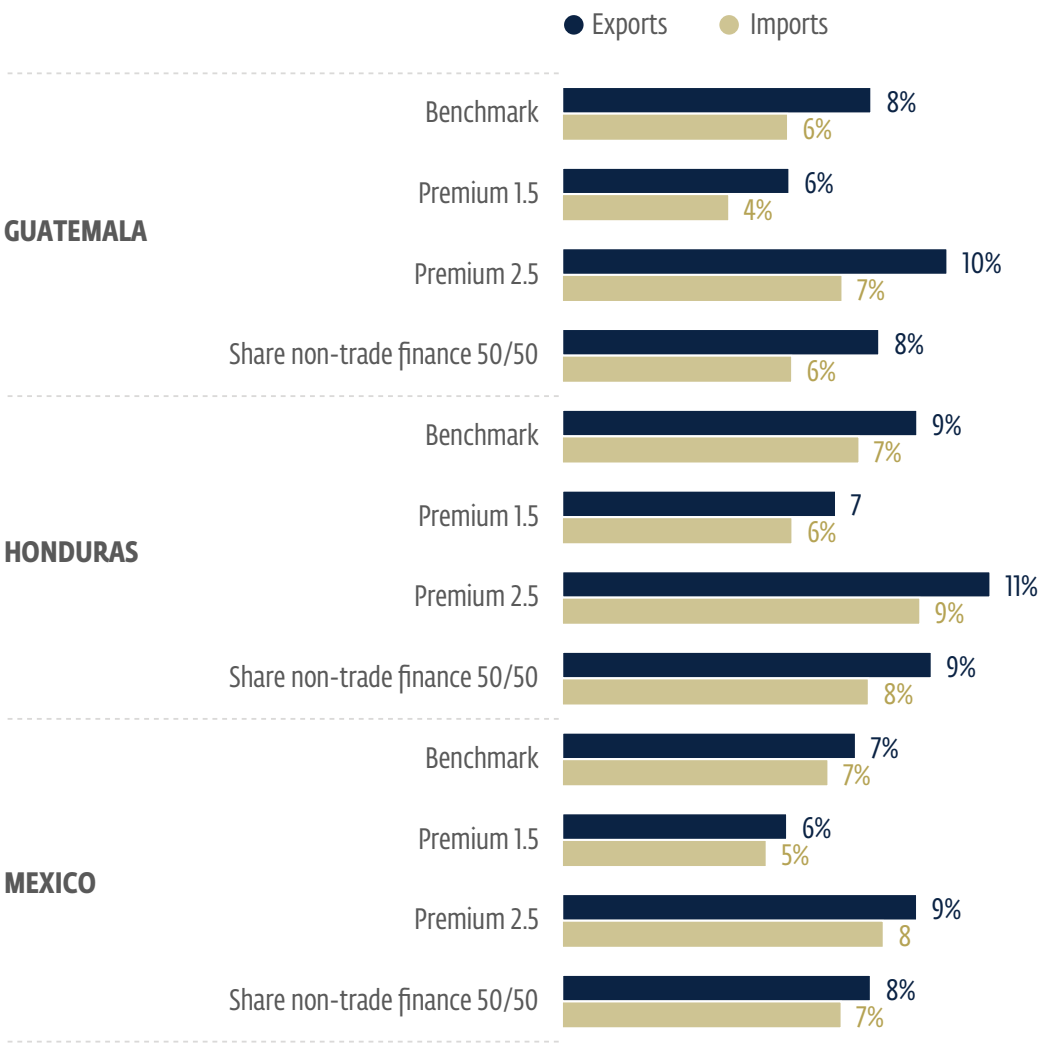


Source: IFC–WTO calculations based on the 2024 IFC survey of trade finance in Guatemala, Honduras, and Mexico. Data from the World Bank, International Monetary Fund, and International Chamber of Commerce, and from the literature, as detailed in Annex C.

Note: The figure displays the share of trade covered by different trade finance and non-trade finance instruments in the baseline, and counterfactual scenarios 1 and 2. Shares are based on the sum of exports and imports. Shares in the baseline are not equal to the shares reported in the survey in Chapter 2 since trade finance shares are a combination of trade finance shares in importer and exporter. For example, for Guatemala both the trade finance shares in the survey and in trading partners based on the literature affect the final shares reported in the figure.

FIGURE C1.2

Projected Increase in the Volume of Trade for Different Assumptions in Scenario 4 (Combined), Percentage



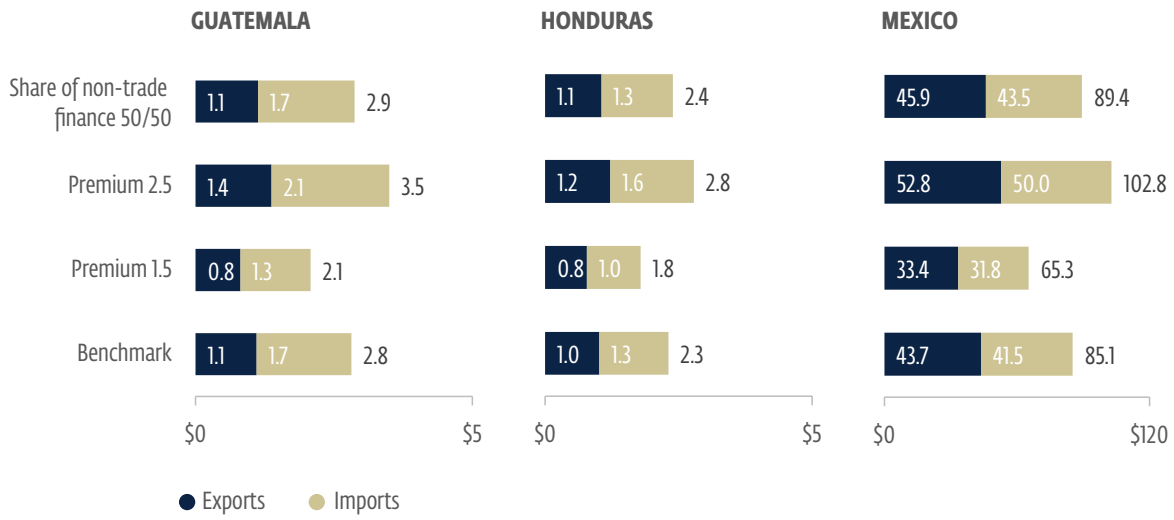
Source: Simulations with the comparative static version of the WTO Global Trade Model extended with trade costs being a function of the costs and shares of trade finance. **Note**: The figure displays the projected change in the volume of real imports and exports for Guatemala, Honduras, and Mexico for Scenario 4 (combined) under different assumptions. "Share non-trade finance 50/50" assumes a 50 percent share for cash-in-advance and internal working capital for trade not financed with trade finance (LCs, import and export loans).

finance and non-trade finance instruments results in smaller projected increases in exports and imports. Conversely, widening this gap leads to larger projected increases. For example, with a premium of 1.5, trade is projected to grow by only about 5 percent instead of 6 percent for Guatemala in the benchmark, about 6 percent instead of 7–8 percent for Honduras, and 4–6 percent for Mexico instead of 6–8 percent for imports and exports. A premium of 2.5 results in larger projected increases in the volume of trade. In monetary terms, this would translate to an increase of $2.1 billion for Guatemala, $1.8 billion for Honduras, and $65.3 billion for Mexico at a premium of 1.5, compared to $2.8 billion, $2.3 billion, and $85.1 billion in the benchmark for the respective countries (**Figure C1.3**).

These findings are consistent with expectations, as increasing the coverage of trade finance instruments helps lower trade finance costs, which in turn reduces overall trade costs. It's important to note that the premium for trade finance costs is adjusted for both surveyed and non-surveyed countries in the robustness checks, although existing literature supports using a premium of 2 for these countries. Therefore, the benchmark results are considered robust to the variation in assumptions on which limited data are available.

FIGURE C1.3

Projected Increase in the Volume of Trade for Different Assumptions in Scenario 4 (Combined), $, Billions



Source: IFC–WTO calculations based on the 2024 IFC survey of trade finance in Guatemala, Honduras, and Mexico and various sources described in the text. **Note**: The figure displays the projected increase in the value of trade for imports and exports for the combined scenario under different assumptions.

References

ADB (Asian Development Bank). 2022. "Toward Inclusive Access to Trade Finance: Lessons from the Trade Finance Gaps, Growth, and Jobs Survey."

AfDB (African Development Bank) and Afreximbank. 2020. "Trade Finance in Africa: Trends Over the Past Decade and Opportunities Ahead."

Agarwal, Natasha, Jackie M.L. Chan, Magnus Lodefalk, Aili Tang, Sofia Tano, and Zheng Wang. 2023. "Mitigating Information Frictions in Trade: Evidence from Export Credit Guarantees." *Journal of International Economics* 145 (2023): 103831. https://doi.org/10.1016/j.jinteco.2023.103831

Aldasoro, Iñaki, Sebastian Doerr, Leonardo Gambacorta, Rodney Garratt, and Priscilla Koo Wilkens. 2023. "The Tokenisation Continuum." BIS Bulletin 72 (11 April 2023). https://www.bis.org/publ/bisbull72.pdf

ALIDE (Latin American Association of Development Financing Institutions). 2018. "Desafíos del Comercio Exterior Latinoamericano y Soluciones para la Construcción de una Arquitectura Sostenible de Financiamiento."

Antràs, Pol, and C. Fritz Foley. 2015. "Poultry in Motion: A Study of International Trade Finance Practices." *Journal of Political Economy* 123 (4): 809–852.

Aparicio, G., E. Carreras, and L.F. Garone. 2022. "Reverse Factoring for MSMEs: A Financial Tool for Supply Chain Development?" IDB Invest. https://idbinvest.org/en/publications/reverse-factoring-msmes-financial-tool-supply-chain-development

Arkolakis, Costas, Arnaud Costinot, and Andrés Rodríguez-Clare. 2012. "New trade models, same old gains?" *American Economic Review* 102 (1): 94–130. DOI: 10.1257/aer.102.1.94

Auboin, M., and A. Dicaprio. 2017. "Why Trade Finance Gaps Persist: Does it Matter for Trade and Development?" ADBI Working Paper Series 702.

Azar, Samih Antoine. 2006. "Measuring relative risk aversion." *Applied Financial Economics Letters* 2 (5): 341–345.

Bacchetta, Marc, Eddy Bekkers, Jean-Marc Solleder, and Enxhi Tresa. 2025. "The potential impact of environmental goods trade liberalization on trade and emissions." *Energy Economics* 141 (C) Elsevier. https://ideas.repec.org/a/eee/eneeco/v141y2025ics0140988324007606.html

Baker, Scott R., Nicholas Bloom, and Steven J. Davis. 2016. "Measuring Economic Policy Uncertainty." *The Quarterly Journal of Economics* 131 (4): 1593–1636.

Balassa, Bela. 1965. "Trade Liberalisation and 'Revealed' Comparative Advantage." *The Manchester School* 33 (2): 99–123.

Banco Central de Honduras. "Boletín de Prensa No. 59-2024-Tasa Política Monetaria." August 5, 2024. https://www.bch.hn/operativos/OPM/LIBBoletines%20de%20prensa/Bolet%C3%ADn%20de%20Prensa%20No.59-2024-Tasa-Pol%C3%ADtica-Monetaria.pdf

Banco de Guatemala. "Boletín de Prensa Tasa de Interés No. 28/08/24." August 28, 2024. https://banguat.gob.gt/sites/default/files/banguat/Publica/prensa/boletin_tasa_int280824.pdf

Banco de México. "Anuncios de las decisiones de política monetaria." https://www.banxico.org.mx/publicaciones-y-prensa/anuncios-de-las-decisiones-de-politica-monetaria/anuncios-politica-monetaria-t.html

Banco de México. 2017. "Mexican Authorities' Actions to Support Efficient Provision of Correspondent Banking Services." September 2017. https://www.cemla.org/forodepagos/pdf/week2017/2017-09-semanadepagos29.pdf

Banco de México. 2023. "Anuncio de la Decisión de Política Monetaria." March 30, 2023. https://www.banxico.org.mx/publicaciones-y-prensa/anuncios-de-las-decisiones-de-politica-monetaria/%7BB5CDF10E-D32B-9E92-3E8E-13BB22940D60%7D.pdf

Beck, S., K. Kim, A. Pandey, M.C. Tayag, M.C. Latoja, and A.R. Malaket. 2023. "2023 Trade Finance Gaps, Growth, and Jobs Survey." Asian Development Bank. https://www.adb.org/sites/default/files/publication/906596/adb-brief-256-2023-trade-finance-gaps-growth-jobs-survey.pdf

Bekkers, E., Francois, J. F., & Rojas - Romagosa, H. 2018. "Melting ice caps and the economic impact of opening the Northern Sea Route." *The Economic Journal* 128 (610): 1095–127.

Bekkers, E., Corong, E., Métivier, J., & Orlov, D. 2024. "How will global trade patterns evolve in the long run?" *The World Economy* 47 (8): 3578–3617.

Bickers, M. 2023. "World Supply Chain Finance Report 2023." BCR. https://bcrpub.com/product/world-supply-chain-finance-report-2023/

Birchwood, A., M. Brei, and D. Noel. 2017. "Interest Margins and Bank Regulation in Central America and the Caribbean." *Journal of Banking & Finance* 85 (December 2017): 56–68.

BIS. 2014. "Trade Finance: Developments and Issues." https://www.bis.org/publ/cgfs50.htm

BIS. 2017. "Revised Annex on Correspondent Banking." https://www.bis.org/bcbs/publ/d389.pdf

BIS. 2024a. "CPMI Quantitative Review of Correspondent Banking Data." https://www.bis.org/cpmi/paysysinfo/corr_bank_data.htm

BIS. 2024b. "Private Sector Partners Join Project Agorá." www.bis.org/about/bisih/topics/fmis/agora.htm

Botta, A., R. Höll, R. Jain, N. Shah, and L.H. Tan. 2020. "Supply Chain Finance: A Case of Convergent Evolution?" In A. Botta, P. Bruno, R. Chaudhuri, M.-C. Nadeau, G. Tayar, and C. Trascasa, eds. *The 2020 McKinsey Global Payments Report*. 19–26.

Bravo, V., C. Estela, P. Córdova, and J. Armando. 2021. "Determinantes del spread en las tasas de interés bancarias en el Ecuador." Peruvian University of Applied Sciences (UPC). https://repositorioacademico.upc.edu.pe/handle/10757/655687

Brenton, Paul, and Richard Newfarmer. 2007. "Watching More Than the Discovery Channel: Export Cycles and Diversification in Development." In *Breaking into New Markets: Emerging Lessons for Export Diversification*. Edited by Richard Newfarmer, William Shaw, and Peter Walkenhorst, 111–128. Washington, DC: World Bank.

Calijuri, Mónica Schpallir, S. Corcuera-Santamaria, and R. Zambrano. 2022. "Opportunity: The Use of Electronic Invoices in International Trade." Inter-American Center of Tax Administrations. https://www.ciat.org/ciatblog-oportunidad-el-uso-de-la-factura-electronica-en-el-comercio-internacional/ [Accessed November 22, 2024].

Cañón, C., Cortés, E., & Guerrero, R. 2022. "Bank competition and the price of credit: Evidence using Mexican loan-level data." *International Review of Economics & Finance* 79 (May 2022): 56–74.

Cavoli, T., D. Christian, and R. Shrestha. 2024. "SMEs, Trade Finance Markets and Instruments: A Review of the Issues with Reference to Asia." Oxford University Press.

Chetty, Raj. 2006. "A new method of estimating risk aversion." *American Economic Review* 96 (5): 1821–1834.

Conine, Thomas, Michael McDonald, and Maurry Tamarkin. 2017. "Estimation or relative risk aversion across time." *Applied Economics* 49 (21): 2117–2124.

Costinot, Arnaud, and Andrés Rodríguez-Clare. 2014. "Trade theory with numbers: Quantifying the consequences of globalization." *Handbook of International Economics* 4. Elsevier: 197–261.

Crozet, M., Demir, B., & Javorcik, B. 2022. "International trade and letters of credit: A double-edged sword in times of crises." IMF Economic Review 70 (2): 185.

Demir, Banu and Javorcik, Beata. 2018. "Don't throw in the towel, throw in trade credit!." *Journal of International Economics* 111 (C): 177–189.

Di Giovanni, J., A.A. Levchenko, and R. Rancière. 2011. "Power Laws in Firm Size and Openness to Trade: Measurement and Implications." *Journal of International Economics* 85 (1): 42–52.

Díaz, Guillermo, and Sindy Castillo. 2022. "Guatemala: Evolución y determinantes de la tasa de interés." *Landívar Economics: Boletín Económico* 2 (2): 20–30. https://biblior.url.edu.gt/wp-content/uploads/2021/CParens/Boletines/Economicas/Leconomics/Numeros/V2_N2/03/03.pdf

Dicaprio, A., and Y. Yao. 2017. "Drivers of Trade Finance Gaps." ADBI Working Paper Series No. 678. https://www.adb.org/sites/default/files/publication/230826/adbi-wp678.pdf

Economic Policy Uncertainty. 2025. Economic Policy Uncertainty Index. https://www.policyuncertainty.com/

European Central Bank. 2020. "Eleventh Survey on Correspondent Banking in Euro." November 2020. https://www.ecb.europa.eu/pub/pdf/other/ecb.eleventhsurveycorrespondentbankingeuro202011~c280262151.en.pdf

European Commission. 2024. "How Electronic Invoicing Helps Reduce Late Payments in Commercial Transactions: 3rd Thematic Report."

FCI. 2024. "Global Factoring Volume Evolution." https://fci.nl/en/international-factoring-statistics [Accessed May 24, 2024].

Financial Times Ltd. 2024. The Banker Database. https://www.thebankerdatabase.com

Fontagné, L., Fouré, J., & Keck, A. 2017. "Simulating world trade in the decades ahead: driving forces and policy implications." *The World Economy* 40 (1): 36–55.

Gallardo Martínez, O. 2023. "Efecto de la disminución del requerimiento de capital por riesgo de crédito en la tasa de interés de las micro y pequeñas empresas." *Estudios Económicos CNBV* 5.

Garratt, R., P.K. Wilkens, and H.S. Shin. 2024. "Next Generation Correspondent Banking." BIS Bulletin. https://www.bis.org/publ/bisbull87.pdf

Giordano, P., & Michalczewsky, K. 2025. "Trade Trends Estimates: Latin America and the Caribbean." Interamerican Development Bank 2025 Edition. https://doi.org/10.18235/0013360

Global Supply Chain Forum. 2016. "Standard Definitions for Techniques of Supply Chain Finance." http://supplychainfinanceforum.org/ICC-Standard-Definitions-for-Techniques-of-Supply-Chain-Finance-Global-SCF-Forum-2016.pdf

Guamán, G., A. Elizabeth, U. Poveda, and M. Alexandra. 2022. "Determinants of the Financial Spread in Some South American Countries: The role of the Economic Freedom." *Revista Venezolana de Gerencia* 27 (99), 927-943. https://produccioncientificaluz.org/index.php/rvg/article/view/38299

Hernández, E. 2024. "Urgent Need to Improve Distribution of Financing for Mexico to Climb Places in Exports." *Forbes*. October 23, 2024. https://forbes.com.mx/urgen-mejorar-distribucion-en-financiamiento-para-que-mexico-escale-lugares-en-exportaciones/

Iacovone, L., Munoz Moreno, R., Olaberria, E., & Pereira-Lopez, M. 2022. "Productivity Growth in Mexico: Understanding Main Dynamics and Key Drivers." The World Bank. http://hdl.handle.net/10986/37190

ICC (International Chamber of Commerce). 2019. "ICC Trade Register Report: Global Risks in Trade Finance."

ICC. 2024. "Global Supply Chain Finance Forum." http://supplychainfinanceforum.org/

ICC Banking Commission. 2020. "2020 ICC Global Survey on Trade Finance."

IFC (International Finance Corporation). 2014. "Supply Chain Finance Knowledge Guide."

IFC, Triple Jump, Finanzgruppe, FAS, BID, OMIN, PRONAFIM. 2017. "Estudio sobre las tasas de Interés de Microcrédito en México. Informes de evaluaciones externas." https://www.gob.mx/cms/uploads/attachment/file/275439/Estudio_sobre_las_Tasas_de_Interes_de_Microcredito_en_Mexico.pdf

IFC. 2021. "Supply Chain Finance by Development Banks and Public Entities: Guidebook."

IFC. 2022. "Country Private Sector Diagnostic: Creating Markets in Honduras, Fostering Private Sector Development for a Resilient and Inclusive Economy."

IFC and WTO (World Trade Organization). 2022. "Trade Finance in West Africa: A Study of Côte d'Ivoire, Ghana, Nigeria, and Senegal."

IFC and WTO. 2023. "Trade Finance in the Mekong region: A Study of Cambodia, the Lao People's Democratic Republic and Viet Nam."

IMF (International Monetary Fund). 2017. "Recent Trends in Correspondent Banking Relationships—Further Considerations." https://www.imf.org/en/Publications/Policy-Papers/Issues/2017/04/21/recent-trends-in-correspondent-banking-relationships-further-considerations

IMF. 2023. "Honduras: 2023 Article IV Consultation and Requests for an Arrangement Under the Extended Fund Facility and an Arrangement Under the Extended Credit Facility-Press Release; Staff Report; and Statement by the Executive Director for Honduras." IMF Staff Country Reports 2023 (337). https://doi.org/10.5089/9798400255496.002 [Accessed February 26, 2025].

IMF. 2024. "Guatemala: 2024 Article IV Consultation-Press Release; and Staff Report." IMF Staff Country Reports 2024 (266). https://doi.org/10.5089/9798400287398.002 [Accessed February 26, 2025].

INEGI (Instituto Nacional de Estadística y Geografía). 2023. "Perfil de empresas manufactureras de exportación 2023: Síntesis Metodológica." https://www.inegi.org.mx/contenidos/productos/prod_serv/contenidos/espanol/bvinegi/productos/nueva_estruc/889463912484.pdf

INEGI. 2024. "Encuesta Nacional de Empresas Manufactureras (PEME)." https://www.inegi.org.mx/programas/peme

ITA (International Trade Administration). 2024. "Honduras Country Commercial Guide." https://www.trade.gov/country-commercial-guides/honduras-market-overview

Jiménez, L.F., and S. Manuelito. 2011. "Latin America: Financial Systems and Financing of Investment. Diagnostics and Proposals." CEPAL Review. https://repositorio.cepal.org/server/api/core/bitstreams/ca4d9299-9ca7-4e36-884c-86620f0127d5/content

Lenzen, M., Moran, D., Kanemoto, K., Geschke, A., & other contributors. 2021. The EORA Global Supply Chain Database. The University of Sydney. https://worldmrio.com

Nassar, K. Ben, E. Martinez, and A. Pineda. 2014. "Determinants of Banks' Net Interest Margins in Honduras." IMF Working Paper 14/163.

Niepmann, F., and T. Schmidt-Eisenlohr. 2013. "Banks in International Trade Finance: Evidence from the US." Federal Reserve Bank of New York. Staff Report No. 633.

Niepmann, F. and T. Schmidt-Eisenlohr. 2017. "No Guarantees, No Trade: How Banks Affect Export Patterns." *Journal of International Economics* 108 (C): 338–350.

Nyantaky, E.B. 2023. "Bank-intermediated Trade Finance and the Intensive Margin of African Trade." *The World Economy* 46 (4): 1144–1160.

OECD (Organisation for Economic Co-operation and Development). 2021. "Trade Finance for SMEs in the Digital Era." OECD SME and Entrepreneurship Papers No. 24 (2021). https://dx.doi.org/10.1787/e505fe39-en

OECD. 2023. "Activities of Multinational Enterprises (AMNE) Database: Importance of Multinational Firms." OECD.Stat. 2023. https://www.oecd.org/en/data/datasets/multinational-enterprises-and-global-value-chains.html

OECD. 2024. Analytical Activities of MNEs (AMNE). https://www.oecd.org/en/data/datasets/activity-of-multinational-enterprises.html

Pedroza, Paola A., and Sergio Navajas. 2010. "Microfinanzas en América Latina y el Caribe: Actualización de datos." Inter-American Development Bank (IDB). https://dx.doi.org/10.18235/0009687

Pérez-Caldentey, E., C. Vera, Á. Díaz, and S. Vera. 2014. "El financiamiento del comercio internacional y el rol de la banca de desarrollo en América Latina y el Caribe." CEPAL. https://www.cepal.org/es/publicaciones/37047-financiamiento-comercio-internacional-rol-la-banca-desarrollo-america-latina

Pérez-Elizundia, G., J.A. Delgado-Guzmán, and J.F. Lampón. 2020. "Commercial banking as a key factor for SMEs development in Mexico through factoring: A qualitative approach." *European Research on Management and Business Economics* 26 (3): 155–163.

Pianese, B. 2022. "Latam's Finance Solutions to Bolster Trade." *The Banker*, August 17, 2022. https://www.thebanker.com/Latam-s-finance-solutions-to-bolster-trade-1660725921

Rice, Tara, Goetz von Peter, and Codruta Boar. "On the Global Retreat of Correspondent Banks." *BIS Quarterly Review*, March 2020. Bank for International Settlements. https://www.bis.org/publ/qtrpdf/r_qt2003g.pdf

Rodríguez, Luis. 2024a. "BCH ha encarecido acceso al dólar al retomar la subasta de divisas." *El Heraldo*, January 29, 2024. www.elheraldo.hn/economia/bch-ha-encarecido-acceso-dolar-retomar-subasta-divisas-honduras-AF17215467

Rodríguez, Luis. 2024b. "BCH retrocedió al quitar a la banca y casas de cambio la venta de dólares." *El Heraldo*, January 31, 2024. https://www.elheraldo.hn/economia/bch-retrocedio-quitar-banca-casas-cambio-venta-dolares-AD17272354

S&P Global. 2024. "Latin America's 30 largest banks by assets, 2024." S&P Global Research. April 30, 2024. https://www.spglobal.com/market-intelligence/en/news-insights/research/latin-americas-30-largest-banks-by-assets-2024

S&P Global Market Intelligence. 2024. Panjiva data platform for trade aggregates by firm. https://panjiva.com

S&P Global Ratings. 2024. "Honduras Outlook Revised to Negative from Stable." September 20, 2024. https://disclosure.spglobal.com/ratings/en/regulatory/article/-/view/type/HTML/id/3256305

Saleem, Q., M. Hommes, and A. Sorokina. 2017. "Technology-Enabled Supply Chain Finance for Small and Medium Enterprises is a Major Growth Opportunity for Banks." IFC EMCompass Note 39 (June 2017).

Shapiro, R., and I. Yoder. 2022. "Anti-Money Laundering Regulation, Correspondent Banking, and the Adverse Economic Effects for the U.S.-Mexico Bilateral Relationship." Sonecon. http://ww.sonecon.com/wp-content/uploads/2022/04/TAB_Correspondent_Banking_Shapiro_FINAL.pdf

Shibli, A. 2024. "Mexico's Capital Market Reforms Set to Catalyse SME Financing." *The Banker*, January 17, 2024. http://www.thebanker.com/Mexico-s-capital-market-reforms-set-to-catalyse-SME-financing2-1705483011

Trade Finance Global. 2024. "Commodity Trade Finance in the New Normal: The Way Forward." https://www.tradefinanceglobal.com/posts/commodity-trade-finance-new-normal-way-forward

UN ESCAP (Economic and Social Commission for Asia and the Pacific). 2021. ESCAP-World Bank Trade Cost Database. https://www.unescap.org/resources/escap-world-bank-trade-cost-database

UNCTAD (UN Trade and Development). 2023. "Global Foreign Direct Investment Flows Over the Last 30 Years." https://unctad.org

US Census Bureau. 2024a. "Imports and Exports by Related Parties." https://www.census.gov/foreign-trade/Press-Release/related_party/index.html

US Census Bureau. 2024b. "Technical Documentation." https://www2.census.gov/programs-surveys/trade/indicators/2011/aip/related_party/rp11-techdoc.pdf

Vazquez, E., and D. Winkler. 2023. "Trade and local labor market outcomes in Mexico: Disentangling the channels and the role of geography, sectors, and trade types." The World Bank. World Bank Policy Research Working Paper No. 10332.

World Bank. 2019. "Enabling the Business of Agriculture 2019." https://eba.worldbank.org/en/reports

World Bank. 2024. World Integrated Trade Solution (WITS). https://wits.worldbank.org/

World Bank. 2024. World Bank Enterprise Surveys (WBES). https://www.enterprisesurveys.org/en/enterprisesurveys

World Bank. 2025. World Development Indicators; World Integrated Trade Solution for trade data (WITS). https://wits.worldbank.org/

World Economic Forum. 2017. "The Role of Law and Regulation in International Trade Finance: The Case of Correspondent Banking."

WTO. 2021. "WTO Trade Cost Index: Evolution, Incidence and Determinants." Background Note, March 24, 2021.

WTO. 2024. Statistics on merchandise trade. https://www.wto.org/english/res_e/statis_e/merch_trade_stat_e.htm

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