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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

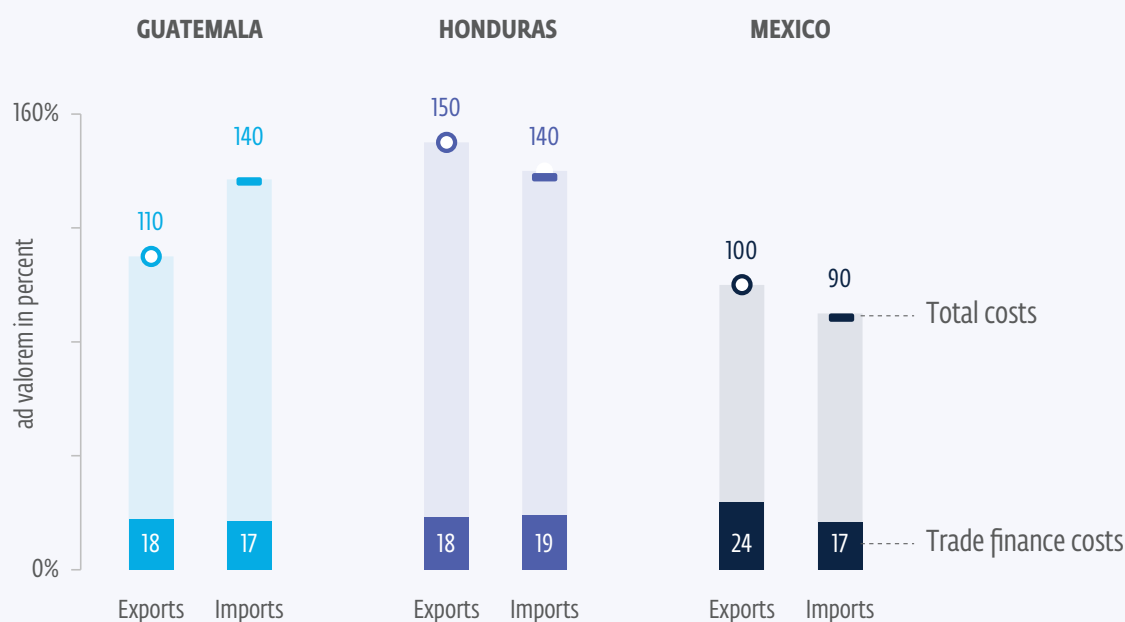
First, doubling the share of trade covered by trade finance leads to much larger trade cost reductions than reducing financial costs of trade finance instruments and lowering LC fees. This holds true for all three countries. The contribution of lower fees is small because the baseline share of trade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

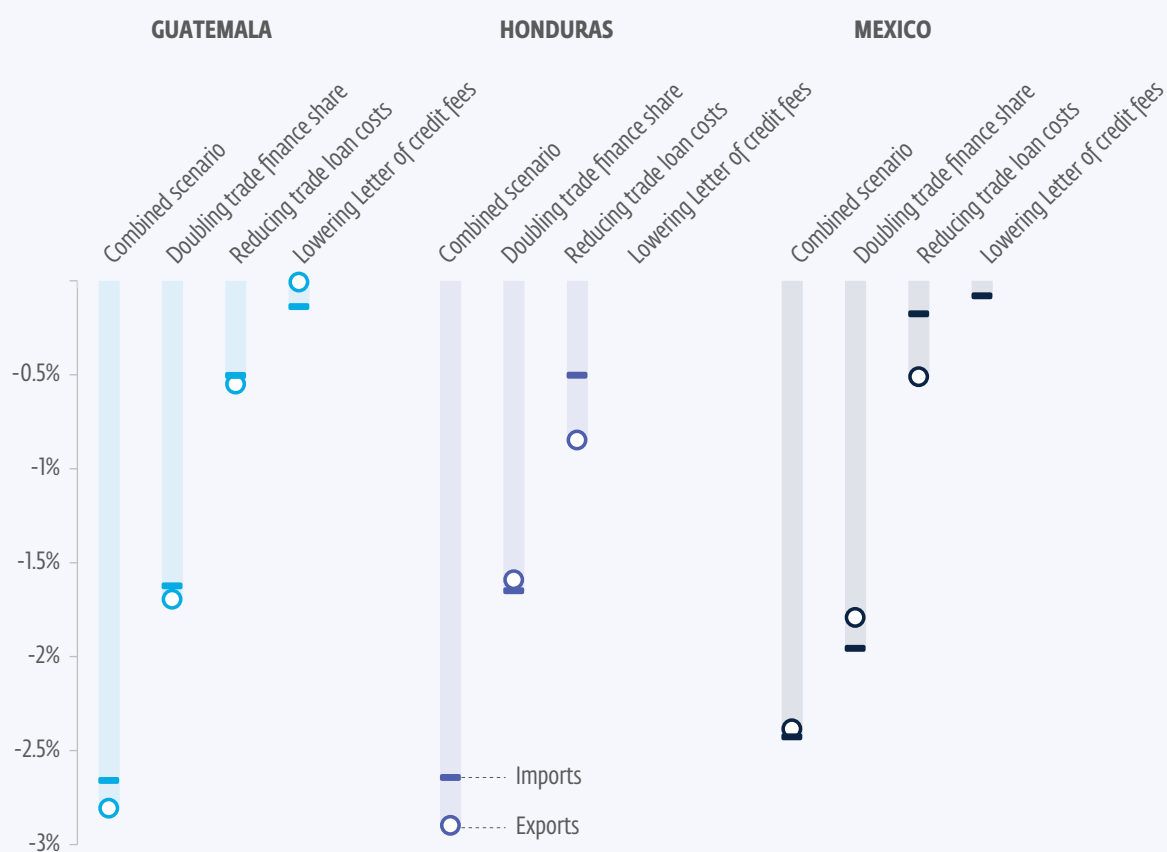
loans and the financial expenses associated with export LCs and SCF would decrease. In contrast, on the import side, only the financial costs of import loans would be reduced, since other instruments are provided by foreign financial institutions and therefore not considered in the counterfactual.

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.

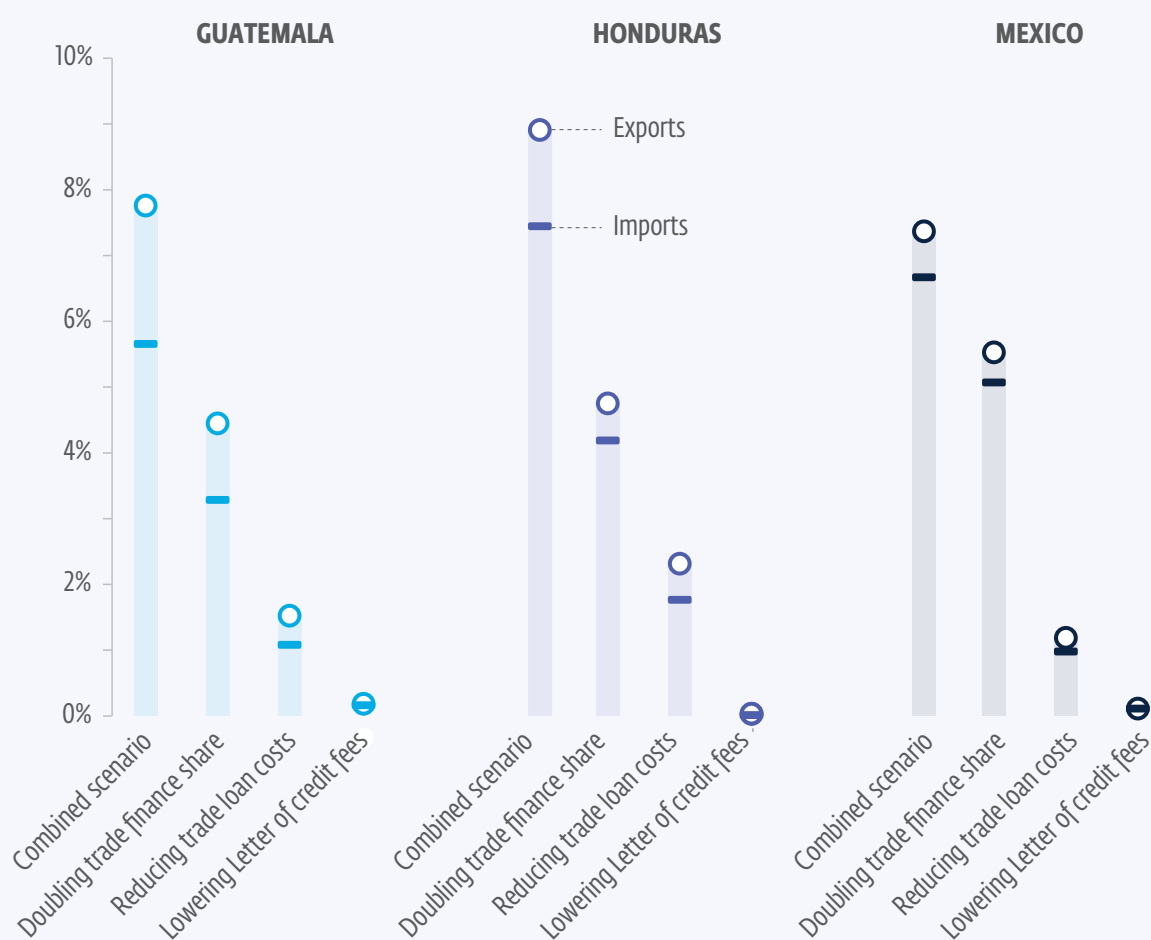
Reflecting the size of the changes in trade costs, the largest projected percent increase would be in Mexico, followed by Honduras. **Figure 3.4** converts the percent changes in trade into volume changes in millions of dollars, using 2023 WTO trade values also employed in Chapter 2. The projected increase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

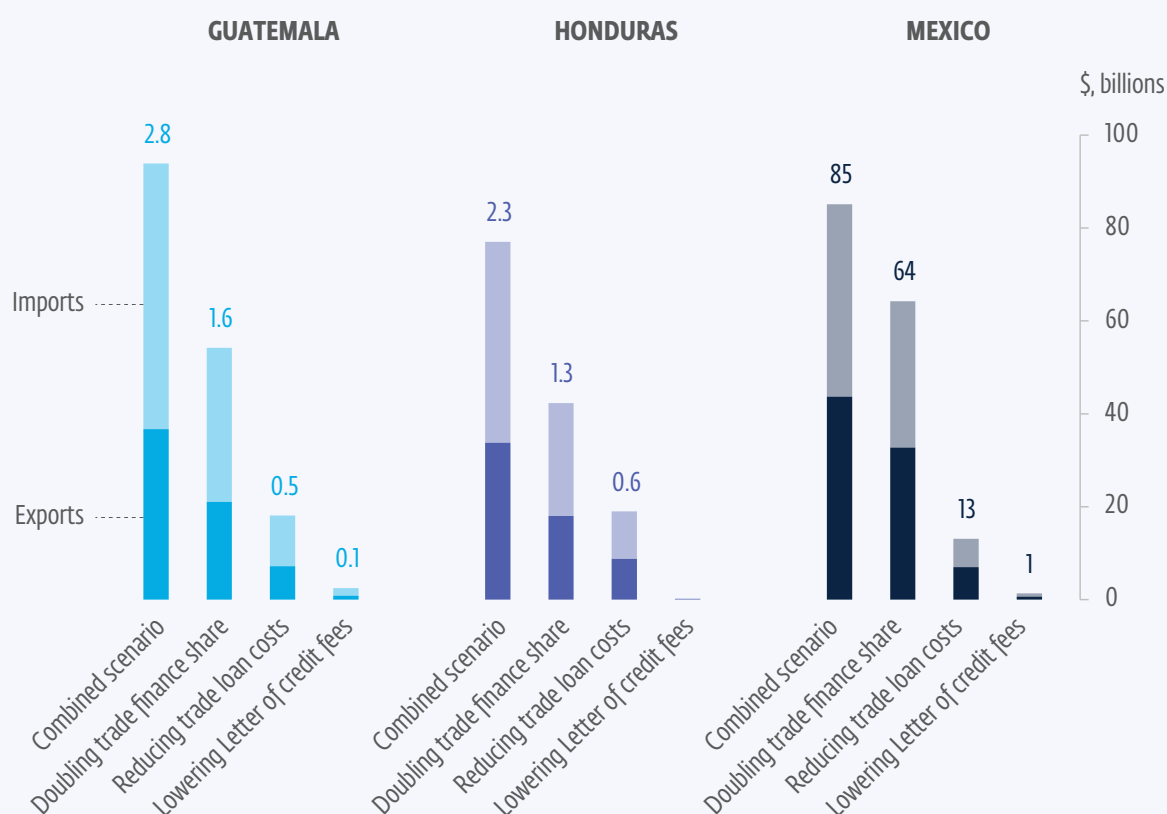
For all three countries, the largest amount of foregone trade as a result of insufficient trade finance and high costs of the trade finance instruments is on the export side. Additionally,

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

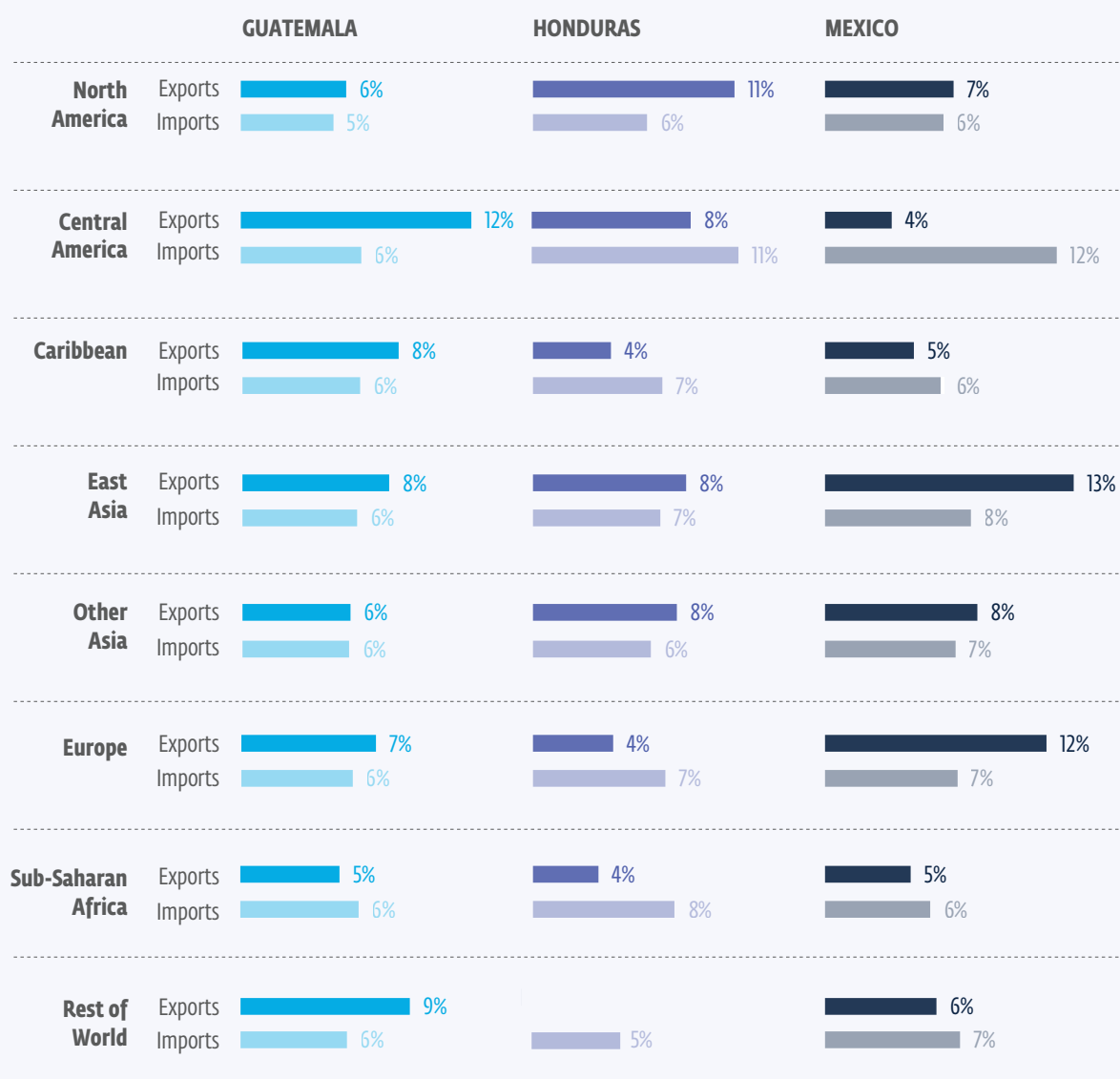
Figure 3.5 illustrates the projected changes in trade volumes by partner country under the combined scenario. In percent terms, the region where Guatemala is expected to experience the most significant export growth is Central America, followed by Rest of the World, and the Caribbean. For Honduras, the 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.