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Understanding SME Trade Finance in ASEAN: An Overview

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Abstract: *SMEs are the most important source of employment in all ASEAN countries, but a lack of access to external sources of finance may limit their expansion and growth. In particular, the existence of a trade finance gap can curtail their participation in international trade. Countries in ASEAN and East Asia need to address this issue to include SMEs in their export-oriented growth strategy. This paper provides a framework for understanding the trade finance gap by examining the nature and strength of relationships between different actors in the trade finance ecosystem. We present an overview of the literature that studied the relationship between financial development and trade, the availability and use of various trade finance instruments in international trade, and some stylised facts about trade finance in ASEAN.*

Keywords: Trade Finance; International Financial Institutions; trade; financial crisis

JEL Codes: F19; F34; G21

1. Introduction

Small- and medium-sized enterprises (SMEs), while generating a substantial fraction of economic activity in most developing countries, often find it relatively difficult to engage in international trade. Estimates using the World Bank Enterprise Survey data reveal that approximately 18% of SMEs globally participate in exports; while the percentage is 12% for East Asia and Pacific region, and one reason this is not higher is their inability to obtain trade finance (World Trade Organization [WTO], 2019; United States International Trade Commission [USITC], 2010). Trade finance is broadly defined as loans and guarantees that financial (and non-financial) institutions offer to firms to facilitate cross-country transactions of goods and services.[1] Studies have estimated the size of the so-called *trade finance gap* (an unmet demand for trade finance) to be in trillions of dollars, much of it likely experienced by smaller firms in the developing countries (International Chamber of Commerce [ICC], 2020; Kim et al., 2019; Auboin, 2021). The consequence is that SMEs encounter difficulties in engaging in international trade, not due to lack of competitiveness or quality, but because of a short supply of financing instruments indispensable to trade internationally. Firms that are rejected for trade finance either forego trade transactions or adopt second-best solutions (Auboin and DiCaprio, 2017). For SMEs in developing economies, the potential lost revenue from global trade due to trade financing difficulties can be up to about 50% (WTO, 2019). Mitigating the trade finance gap remains a crucial policy challenge for developing and emerging countries looking to improve SME participation in international trade.

We require a systematic framework to assess the reason behind persistent trade finance gaps, constraints in trade financing, and the policies needed to mitigate the situation. The barriers to trade finance could vary across countries,

[1] In monetary terms, the World Trade Organization (WTO) reports that in 2018 there was an estimated $18 trillion in global trade flows, as such, there needs to be a trade finance market worth around $14 trillion (WTO, 2018). In 2014, the Bank for International Settlements estimated the global market for trade finance between $6.5 trillion and $8 trillion. Trade finance is estimated to govern 80% of international trade transactions (ICC, 2020). It involves loans and guarantees from banks that underpin imports and exports – through either directly providing funding or through unfunded guarantees to the exporter on behalf of the importer. There are a number of different financing contracts through which this can occur (see WTO, 2018, and Van Wersch, 2019 for a description of the possible arrangements).

depending upon existence (or lack thereof) of relationships between key actors in the trade finance ecosystem, which comprises exporting firms, importing firms, government, large national banks, small local banks, and multilateral development banks. The absence of such relationships may exacerbate the trade finance gap, and this may vary widely across emerging countries. Using an organising framework that focuses on relationships across these actors and using available data to provide insights into the strengths of these relationships, this overview paper sheds light on the nature of the trade finance market for SMEs, as well as the major impediments to securing trade finance for SMEs in the emerging and developing economies of ASEAN and East Asia. We propose that one way of uncovering these underlying causes is to assess the strengths of relationships between various actors in the trade finance ecosystem using qualitative and quantitative information.

Our review of the literature and existing secondary data shows that while there are many studies showing the importance of trade finance for firms and SMEs in particular, there is still a lack of quantitative information, which is needed to identify factors that restrict access to those instruments, and a lack of policy options for regulators to improve the trade finance landscape for those firms. The trade finance gap, though estimated from limited data, is large and varies across countries. According to Asian Development Bank (ADB), 34% of a $1.5 trillion trade finance gap in 2018 was in Asia and the Pacific. Likewise, there was a global trade finance gap of $692 billion in developing Asia, including India and China (Kim et al., 2019). Amongst developing regions, Asia and the Pacific continues to have the highest proposal rate (40% of global proposals) and the highest rejection rate (34% of global rejections) for trade finance. DiCaprio et al. (2017) showed that Asia and the Pacific account for 39% of all rejected trade finance transactions. Approximately one-third of these are from China and India, which both had 7% of total rejections each. SMEs generate the highest number of proposals with rejection rates above their proposal share: 44% of all proposals, 56% rejected. Only 10% of proposals from multinational corporations (MNCs) and 34% from large corporates are rejected.

To make matters worse, multiple studies show that access to finance declines for a long time after large economic shocks, such as the global financial crisis (Gilchrist and Zakrejsek, 2012). The problems of accessing trade finance have been especially acute since the 2007 global financial crisis. The coronavirus disease (COVID-19) pandemic likely has substantial implications for trade finance – especially for SMEs that have limited cash reserves, relatively low access to credit, and few assets, and are less likely to benefit from large scale, general stimulus packages (International Labour Organization, 2020). Further, studies show that those firms that engage in international trade are more likely to suggest that COVID-19 has a powerful impact on their firm's performance compared to those firms that do not export or import (Abile, 2020). For a swift recovery of SME trading activity after the pandemic, policymakers need to address the trade finance gap that has worsened during the pandemic.

Our review also suggests that the specific solutions to the trade finance gap could be country specific. Some countries may require regulatory solutions, as regulations that govern relationships between financial institutions domestically and across the border can directly affect the ability of SMEs to get trade finance. In other cases, multilateral development banks may need greater funding to provide trade finance facilities to ease liquidity constraints of domestic banks. Likewise, finance providers in many developing countries may require capacity building to adhere to global financial rules, such as anti-money laundering. A systematic assessment and quantification of various sources of the trade finance gap (and trade finance problems) is necessary to devise tailor-made solutions. Most of the available data is from financial institution reports, which form the supply side of the trade finance market. There is limited information from the demand side, which consists of firms. This is a knowledge gap that needs to be filled through purposeful surveys and interviews. In our conclusion, we propose methods for generating the required data and information to address the trade finance gap.

This paper is structured as follows: The next section presents a selective review of the relevant literature relating to financial constraints, international trade, and economic activity. Section 3 presents a conceptual framework for assessing and categorising trade finance activity and presents an analysis of the available

indicators used to measure such activity. Section 4 presents some stylised facts pertaining to trade finance for the ASEAN region. Section 5 concludes and provides some avenues for future research.

2. Finance, Trade, and Growth: Literature Survey

The issue of trade finance can be within the broader literature that has found linkages between finance, trade, and economic growth. While an acknowledgment of the role of the financial system in economic growth dates back to the 19th and early 20th century (Bagehot, 1873, Schumpeter, 1911), it was only in the 1990s that there emerged a significant acceleration in the scholarly literature that examined the causal relationship between finance and economic development, and the mechanisms that connect the two. King and Levine (1993) examined the impact of financial development on real per capita gross domestic product (GDP) growth and found that financial services encourage growth by increasing capital accumulation as well as improving efficiency of its use. Trade seems to be an important link in this relationship. Facilitating the exchange of goods and services, including for international trade, is one of several ways financial development induces higher growth (Levine, 2004). The importance of financial development also varies across sectors. Rajan and Zingales (1998) show that sectors that are more dependent on external sources of finance grow at a faster rate in those countries with a more developed financial system. Svaleryd and Vlachos (2005) and Hur et al. (2006) find that financial development affects the level of industrial specialisation and leads to higher exports in industries with more intangible assets. Becker et al. (2013) find that financial development is associated with greater exports and imports in those industries bearing higher fixed costs.

However, financial constraints can affect the import and export behavior of firms and, ultimately, overall economic activity and engagement in production networks. Castello and Gruber (2015), using a model where firms require external finance to import and can be financially constrained, show that (1) trade-to-GDP ratio falls following a negative credit shock, as the shock reduces the capability of firms to purchase foreign intermediate goods; and (2) financially developed countries trade more, are richer, and are more stable in terms of GDP and

consumption. Chan (2019) shows that financially constrained firms are more likely to use trade intermediaries in exporting, which likely increases costs and reduces competitiveness of exporters. Papers that have studied the aftermath of large shocks that reduced the availability of finance showed empirically the important role of finance in international trade, in particular, the 2007–2008 global financial crisis. [2] A key conclusion here is that standard trade models show these effects, which show that there is a need for these frameworks to incorporate a trade finance channel.

Looking specifically at trade finance issues, recent literature highlights that the general macro finance environment is an important determinant of trade finance. Hwang and Im (2013) assess the effects of financial shocks on the availability of trade finance. The paper reveals that the reaction of trade finance to shocks to financial variables are negative and persistent – implying losses and significant delays for traders. Likewise, Del Prete and Federico (2014) investigated the effect of credit supply shock on the various types of loans. They found that credit supply shocks matter for exporters – especially financially constrained ones, although not just via specific constraints on trade finance but more via a reduction in the availability of ordinary lending. Antras and Foley (2015) reported that the manner in which trade is financed shapes the impact of crises. Crises can be modeled as a decrease in demand and an increase in the likelihood that liquidity shocks occur. Under these circumstances, importers that were transacting on cash in advance terms before the crisis reduced their purchases the most, a pattern that appears in the data. Niepmann and Schmidt-Eisenlohr (2017a) presented similar conclusions that the crisis of 2008 affected the trade finance choices of firms, where letters of credit (conducted through banks) were used more than non-bank forms of trade finance, or documentary collections. Thus, financial development and trade finance are interrelated.

Several studies have specifically examined the impact of trade finance instruments on trade, either as single-country studies or comparative analyses. Korinek et al. (2011) reported a robust positive empirical relationship between trade credit and trade. Siregar (2010) found a similar result for an Asian sample. Auboin

[2] See Amiti and Weinstein 2011; Behrens et al. 2013; Bricongne et al. 2012; Coulibaly et al. 2011; Chor and Manova 2012; Iacovonne et al. 2019; Spatareneanu et al. 2018.

and Engemann (2014) used the Berne Union data on export credit insurance for 2005–2012 to analyse the relationship between trade credit and trade. They found that global economic conditions such as output and global liquidity negatively affected the availability of trade credit, which led to a reduction in trade. Wang and Ronci (2006) revealed a strong positive relationship between external short-term credit from the International Monetary Fund (IMF) and both country import and export flows.

The Bank for International Settlements (BIS) analysed the impact of bank intermediated trade finance on trade flows for 11 mainly industrial countries (BIS, 2014). It found that the individual impact of trade finance on trade flows is not statistically significant but became robustly positive once it interacted with a global financial crisis variable. The study also used interfirm trade credit and found the same result. This suggests that crises are important in the nexus between trade finance and trade.

Niepmann and Schmidt-Eisenlohr (2017b) estimated the effect of letter-of-credit supply shocks on US exports, especially to smaller nations. They showed that a one-standard deviation negative shock to a country's letter-of-credit supply reduces US exports to that country by 1.5 standard deviations. This effect more than doubled during the 2007–2009 financial crisis. Considering that reductions in the supply of letters of credit are associated with a contraction in bank lending and a rise in banks' credit default swap spreads, letters of credit may have a role in explaining the collapse in exports to the smaller countries in 2008–2009.

Besides macro finance conditions, the literature also points to other determinants of trade finance (and the trade finance gap). There are four very broad categories of other factors that explain the existence and magnitude of the trade finance gap: (1) factors relating to banks and their ability to supply trade finance; (2) regulations and compliance measures that may be asked of banks and firms; (3) institutional factors, a category broad enough to incorporate societal and political variables; and (4) fintech and digital finance platforms.

On bank-related issues, the BIS (2014) and Garralda and Vasishtha (2019) both examined the main determinants of trade finance for multiple countries using macro data and found that the bank capital to total assets ratio affected trade finance

flows positively with similar magnitudes, though only BIS (2014) find statistically robust relationships. Further to this, Kim et al. (2019) suggested the following as the most prominent bank related barriers to trade finance: high transaction costs/low fee income (reported by 59% of banks), and an issuing bank's low credit ratings (51%). From surveying companies that sought trade finance, it is further revealed that the main cause of higher rejection rate is their inability to fulfil standard bank requirements – 35% of small and medium enterprises (SMEs) that were surveyed reported that rejection was due to failure to meet standard requirements such as collateral, documentation, and valid company records.

A second group of possible determinants is regulatory and compliance factors. Di Caprio et al. (2016) presented results from 337 banks surveyed in 114 countries and found that concerns with anti-money laundering (AML) (90% of respondents reported concerns), Basel III (77%), know your customer (KYC) regulations (76%) are possible inhibitors. These factors inadvertently exclude companies from obtaining financial support that may help with trade finance; this is more acute for SMEs and companies in emerging market economies. The World Trade Organization (WTO) suggested that perceived regulatory requirements and the consequences for non-compliance may heighten perceptions of AML – leading to overcompliance, which might further reduce trade finance offered to firms (WTO, 2019). Kim et al. (2019) also discussed the idea of unintended consequences of AML and related regulations. These, some argue, have a greater than proportional impact on SMEs, and some countries risk being cut off from global financial markets because of the reduction in correspondence banking relationships.[3]

The third group are institutional factors, including variables that relate to the quality of institutions and governance structures, such as rule of law and contract enforcement, but also include variables relating to gender access to trade finance markets. Antras and Foley (2015), in a single industry study of trade finance in the United States, suggested that contract enforceability can significantly affect the

[3] In related work, Auboin and Di Caprio (2017) uses survey data to assess why trade finance gaps exist. The paper argues that regulatory requirement such as AML and KYC provisions are said to be key factors inhibiting trade finance.

nature of trade finance. The paper examined different trade finance arrangements and found that importers from countries that possess weak contract enforcement will typically finance transactions from their end – cash in advance arrangements, rather than open account or letter of credit. Niepmann and Schmidt-Eisenlohr (2017a) showed that the 2007/2008 financial crisis affected firms' payment choices, pushing them to use more letters of credit.[4] These patterns follow naturally from a model of payment contracts in international trade. These results, though, appear more robust for countries with intermediate contract enforcement, and trade finance is also more likely to be used for riskier destinations than documentary collections. Ellingsen and Vlachos (2009) examined the impact on trade finance arrangements during crises. They found that trade finance markets are affected more when transactions take place with countries where there is less trust (in the buyer's bank).

The last group looks specifically at the impact of innovations in digital finance and fintech on trade finance and the trade finance gap. Auboin and DiCaprio (2017) found that digitisation of banks and rise of fintech have strong potential to shrink trade finance gaps, but the impact of these innovations remains marginal. The IMF (2019) stated that fintechs can open new channels through which SMEs can achieve greater financial inclusion. DiCaprio et al. (2017) showed that a relatively small proportion of firms are sufficiently familiar with fintech and digital finance platforms if it makes a significant positive impact on the trade finance gap. A similar story emerges from the perspective of banks, which report that digitisation of financial services will assist with cost reductions, risk assessment, and regulatory compliance but not necessarily with reducing the trade finance gap. Kim et al. (2019) reported high cost of technology adoption as the most cited reason (57%) for banks not to use technology, followed by 'lack of global, established standards, laws, rules for digital finance' (43%). In their study using aggregate data, Rice et al. (2020) found that proxies for fintech, the percentage of the adult population that pays bills online and use the internet, significantly affect the number of active correspondent banks – itself a proxy for trade finance. Interestingly, the coefficient for paying bills online is positive, while for internet usage, the coefficient is

[4] Rather than open account or cash in advance.

negative. Cornelli et al. (2019) presented a study of the financing of SMEs in Asia. It found that the complexity and paperwork-intensive nature of trade finance transactions has made distributed ledger technologies (DLT) an attractive option in Asia and the Pacific. These technologies could help digitise and automate the trade supply chain and make checks much quicker, more efficient, and less costly.

3. The Architecture of Trade Finance

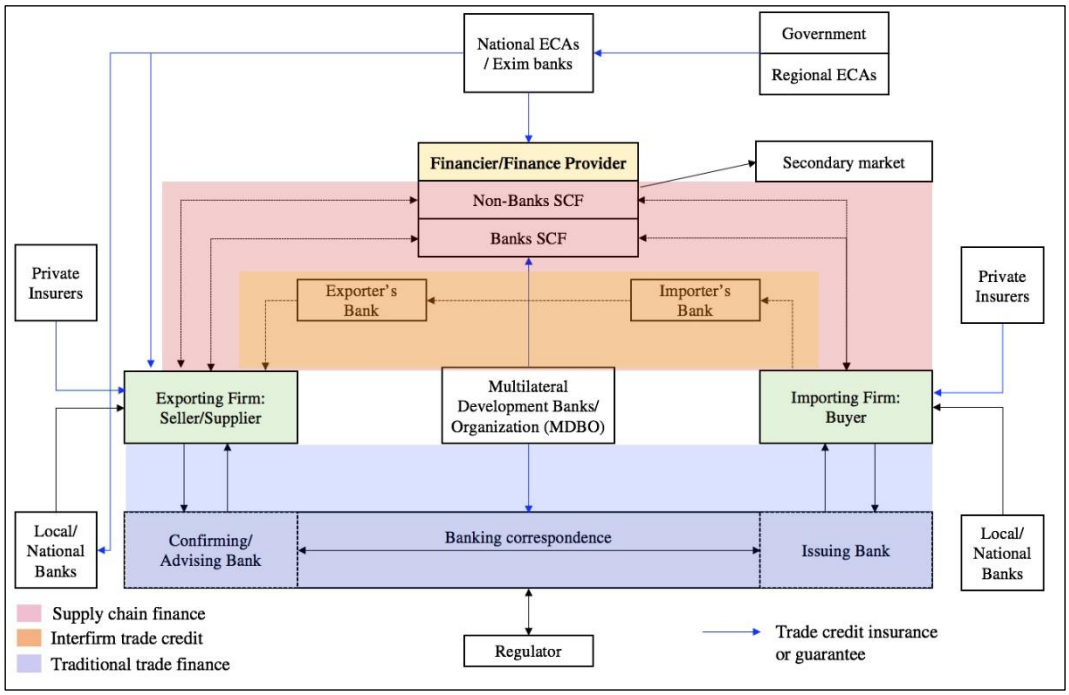
In this section, we develop a conceptual framework to understand the nature of trade finance and trade finance gap, which will later be used in reference to trade finance in ASEAN to identify potential policy solutions. Various factors determine the availability of financial instruments. For example, Auboin and DiCaprio (2017) noted that, in the current risk and regulatory environment, financial institutions are continuing to merge away from low-profit and low-volume segments, which leaves out SMEs. However, the key question is, what determines profitability of trade finance instruments? We argue that understanding the relationships across various actors in the trade finance architecture provides a framework for analysis that ultimately aids in developing policies to expand trade finance for SMEs. Trade finance activity depends upon a nexus of relationships between various institutions, which collectively attempt to mitigate the risks inherent to international trade activities and address the frictions they cause. As noted in earlier sections, many trade finance instruments are available. Underlying these instruments are relationships between various actors in the trade finance ecosystem. One important distinction between trade finance and other forms of finance is that the relationships that underpin them are cross-border in nature.

The following are key players in the ecosystem:

- Importing firms
- Exporting firms
- Banks in importing country
- Banks in exporting country
- Financial service providers
- Regulators
- Multilateral development banks

Figure 1 displays a simplified version of some of these relationships.

Figure 1: The Trade Finance Landscape



ECA = export credit agency, SCF = supply chain finance.
Source: Authors' illustration.

First, we have ***firm-to-firm relationship*** between suppliers and buyers. About 60% of global exports are conducted on open-account terms, where suppliers agree on a commercial contract with buyers, deliver the goods to the buyers, and then receive a clean payment [5] from the buyers via a banking transfer by an agreed due date. In doing so, suppliers essentially extend a trade credit to the buyers. This requires a pre-existing relationship between firms across borders, something that is rarer for SMEs than for larger organisations such as multinationals. An increasingly important subset of open-account trade is the supply chain finance (SCF), wherein an open account trade is intermediated by a third-party financier. This financier may be a banks or non-bank financial institution (e.g., factoring companies). The four most popular SCF instruments (accounting for 90% of all SCF) are factoring, receivables financing, payables financing, and forfaiting. Some of these instruments

[5] Clean payment refers to a banking transfer that is not underwritten by the exchange of shipping documents, which in this case are handled directly between the exporter and importer.

(e.g., forfaiting) can be repackaged and traded in a secondary market. Suppliers have incentive to use SCF as it mitigates the risks of non-payment and allows them to receive the payment earlier and have better working capital flexibility.

Bank-to-bank relationship is another prominent feature of trade finance architecture. Facilitating payment for international trade activity requires a bank in the supplier's country to enter a correspondent relationship with the bank in the buyer's country. These banks can take up various roles, ranging from issuing bank, confirming bank, advising bank, negotiating bank, depending on the specific instrument involved. The same global bank or different physical banks in both countries can assume these roles. The cutback of banking correspondent relationship observed globally in the past decade has created further difficulties in financing trade activities.

Forty percent of global trade is conducted via ***traditional bank-intermediated trade finance*** instruments such as Letter of Credit (LC) and Documentary Collection (DC). This typically requires a correspondence between banks in both the supplier's and buyer's country, through which the bank provides supplier a guarantee for the payment obligations from the buyer by underwriting the payment with exchanges of shipping documents. Bank-intermediated trade finance is more costly and less flexible than open account trade finance, but it offers greater protection for suppliers, and is preferred for trade activities involving riskier clients or destinations. For SMEs, availability of banks who can provide LC service is crucial for their international expansion.

In ***bank-to-firm relationships,*** commercial banks may provide a direct trade loan for exporters or importers. Banks also perform customers due diligence (CDD) on firms whom they finance. Through the CDD process, banks request information regarding Know-Your-Customers (KYC), Anti-Money Laundering (AML), and Counter Financing of Terrorism (CFT) measures to ensure they stay compliant to regulations in these areas. This is due to the existence of ***regulator-to-bank relationship,*** in which global regulators publish regulatory guidelines or frameworks covering CDD-related measures on KYC, AML, CFT, as well as things pertaining to banking prudence, such as the Basel III rule on capital requirement.

In addition, jurisdiction-specific regulators supervise banks, check their compliance on the measures above, and sometimes impose penalties on their violations.

Risk of non-payment is amongst the most crucial feature to mitigate in a typical international trade transaction. Undersupply of trade finance can partially be explained by the high risk of non-payment inherent to certain segments of trade perceived as risky (e.g., SMEs in less developed countries). This is the reason insurance and guarantee play important roles in the trade finance architecture.

In ***insurer-to-insuree relationships***, there are three types of insurers (private, public, and multilateral organisations) offering protection for two types of insurees (firms and finance providers). For example, some domestic or global private insurance firms offer trade credit insurance for exporters to compensate them in case importers default on payment. Meanwhile, the public sector, represented by national export credit agencies (ECAs) or export-import banks, also offer trade credit insurance and/or guarantees programs for commercial banks to share the risk burden and increase their incentives to finance trade transactions of the otherwise excluded client segments such as SMEs. They can also offer the same thing directly to the exporting firms or through the firm representatives, such as KSURE in the Republic of Korea (henceforth Korea). In some cases, federal governments also play a role as a reinsurer for the national ECAs. Finally, multilateral development banks or organisations (MDBO), such as Asian Development Bank (ADB) or International Finance Corporation (IFC), have been providing similar types of insurance and guarantee either to banks issuing the LC or to financiers of open-account trade (i.e., SCF providers).

In ***government-to-bank/firm relationships.*** governments sometimes provide a trade loan subsidy to local or national banks, in addition to insurances and guarantees. Governments also provide export loans or working capital loans aimed directly and specifically at SMEs, which represent another alternative source of financing for firms to take part in international trade.

3.1. Data and Measurement of Trade Finance

Having described the interactions between various actors in trade finance architecture, we now discuss the data and measurement of trade finance. The effective measurement of the trade finance gap is not a simple task; while there are several variables that measure and proxy for trade finance, there is no systematic framework for the measurement of trade finance and, as such, no comprehensive dataset that captures all the salient characteristics of trade finance (IMF, 2019a). Auboin (2021) in referring to this, described a 'great paucity of "hard" trade finance statistics' (p.3). IMF (2018) noted that 'trade finance encompasses a wide range of financial instruments that span more than one of the standard financial account classifications in the existing macroeconomic statistics.' The diverse nature of the relationships between the various actors in trade finance, as depicted in Figure 1, confirms this.

Table 1 illustrates this scattered nature of the trade finance data by providing a compilation of various trade finance indicators, subject to the availability of the data. It classifies various trade finance instruments under the aforementioned relationships in the trade finance architecture and captured in Figure 1. This framework can be extended to assess the relative strength between relationships amongst trade finance actors and inform the data collection gap. Table 1 shows that regularly collected, directly comparable, country-specific data on trade finance instruments are in most cases sparse, especially for ASEAN+6 countries. Such a data gap presents a unique challenge in conducting cross-country empirical analysis on trade finance in this region. Despite such limitation, Table 1 also shows that there currently exist some indicators for which the data availability is extensive, such as Letter of Credits, factoring, banking correspondence, and export credit insurance. While they do not represent the entirety of trade finance volume, they are routinely used in the literature as a proxy for trade finance availability. Table 1 only captures financial instruments specifically for trade activities, and it leaves out general/all-purpose financial indicators, which are readily available.

Table 1: Data Mapping of Trade Finance Indicators

#	Relationship	Indicators	Source	ASEAN+6 Availability?
1	Firm-to-Firm: Direct	*Interfirm trade credit:*		
		Open account	N/A. SWIFT or BIS*	Sparse
		Cash in advance	N/A. SWIFT or BIS*	Sparse
2	Firm-to-Firm: Intermediated	*Traditional trade finance:*		
		Letter of Credits (LCs)	SWIFT (MT 700)	Extensive
		Documentary Collections (DCs)	SWIFT (MT 400)	Extensive
		Supply chain finance (SCF):		
		Factoring	Factoring Chain International	Extensive
		Forfaiting	Financial institutions (FIs)	Sparse
		Receivables/payables financing	FIs	Sparse
		Other supply chain instruments	FIs	Sparse
3	Bank-to-Bank	Banking correspondence relationships and statistics	BIS, IMF	Extensive
		Cross-border bank claims or liabilities	BIS	Extensive
4	Bank-to-Firm*	Trade-specific loan or credit for firms	Domestic sources/FIs	Sparse
		Working capital financing for export	Domestic sources/FIs	Sparse
		Trade finance rejection rates	Survey: ADB or ICC	Moderate
		Customer due diligence process and monitoring	Survey or FIs	Sparse
5	Regulator-to-Bank	Regulatory strictness (Basel III, AML, KYC, CFT, etc.)	-	Sparse
		Banks' compliance cost	N/A. Survey or FIs	Sparse
6	Insurer-to-Insuree	*Export credit insurance (ECI):*		
		Public: ECI from national export credit agencies (ECAs)	Domestic sources when available	Moderate

		Privately sourced ECI	Berne Union	Extensive
		Reinsurance or guarantees for banks, non-bank FIs or ECAs	Domestic sources/Int'l organisation	Sparse
		International organisation's programs (e.g., ADB, WTO, IFC, etc.)	International organisation	Sparse
		Risk participation agreements or similar measures	International organisation	Sparse
		Revolving credit facility or similar measures	International organisation	Sparse
		Other forms of support, especially for local financial institutions	International organisation	Sparse
7	Government-to-Bank or Firm	Direct loan or subsidy to banks/FIs assisting trade	Domestic sources when available	Sparse
		Credit for firms or SMEs participating in trade	Domestic sources when available	Sparse

ADB = Asian Development Bank; AML = Anti-Money Laundering; BIS = Bank for International Settlements; CFT = Counter Financing of Terrorism; ICC = International Chamber of Commerce; IFC = International Finance Corporation; KYC = Know-Your-Customers; SWIFT = Society for Worldwide Interbank Financial Telecommunications.

Note: Extensive = cover all or most countries, time period is frequent; Moderate = cover some countries, time period is not very frequent; Sparse = cover few countries or not country-specific, time period is not frequent or one-offs. In some cases, close to non-existent.

* Detailed and systematic data on trade credit is currently unavailable. Trade credit flow can be roughly approximated by a combination of several types of SWIFT messages that deal with cross-border payment orders, such as MT103 (single customer credit transfer) and MT202 (interbank payment), and the trade-related payment advice of MT400. However, it is extremely important to note here that SWIFT messages traffic is a valid proxy for trade credit volume only to the extent to which they reveal anything about the underlying transactions. Unfortunately, given the diversity (both trade- and non-trade-related) of transaction types involving those messages, it remains unclear what that extent is, and thus how reliable of a proxy for trade credit they really are. In addition, the Bank of International Settlements also compiles statistics on credit to private non-financial corporations in 44 economies, including both domestic and cross-border credit. With similar caveat as above, this could also serve as a rough proxy for trade credit.

Source: Authors' compilation.

First, *interfirm trade credit* represents a ***direct firm-to-firm relationship***. These are arrangements between firms (importers and exporters) that provide for how trade will be financed directly (without the help of an intermediary). These may include cash-in-advance or open account arrangements. Unfortunately, while this relationship represents about 60% of global merchandise export, the data availability is scarce. However, some types of messages through the Society for Worldwide Interbank Financial Telecommunications (SWIFT) and credit statistics from the BIS can roughly approximate trade credit with a caveat, as explained in Table 1.

The remaining 40% of trade activities are ***intermediated*** or aided in one way or another by banks or other finance providers (e.g., factoring companies, insurers). Some data is available here. As mentioned in the previous section, one of the better-known instruments of trade finance is the *letter of credits* (LCs). This is an off-balance sheet instrument where a bank makes a payment to an exporter on behalf of an importer once delivery of goods is confirmed. While 91% of LCs are used for cross-border transactions, these and other documentary credits are not recorded in macroeconomic statistics [see Niepmann and Schmidt-Eisenlohr (2013), IMF (2018)]. However, the traffic of LCs and DCs are recorded by SWIFT as *trade finance messages*. It records messages sent and received by banks relating to trade finance. The SWIFT network collects data on the number of payment messages and their value. Specific data is collected on trade finance related instruments; MT 700 is a data source for documentary credit, such as letters of credit between banks, while MT 798 are messages for firm to bank documentary flows (Auboin, 2021).

Another type of ***intermediated trade finance*** is a prominent form of supply chain finance called *factoring* (Auboin et al., 2016). Factoring involves the selling of a firm's accounts receivable to a third party (factor) who assumes the credit risk for those receivables. This helps to address the needs of both suppliers and buyers; a supplier would prefer to receive payment when the items are shipped whereas the buyer would prefer to pay when in receipt of the items. The factor receives payment from the buyer on delivery, who uses the proceeds to pay the advance made to the seller. The data is provided by Factor Chain International.[6]

[6] https://fci.nl/en/annual-review

Intermediated trade finance also heavily involves a ***bank-to-bank relationship***, which is captured by correspondent banking statistics. Correspondence banking is an arrangement where a bank (correspondent) can hold deposits for client banks and provide services such as cross-border payments for trade finance (Rice et al., 2020). A lacking or declining banking correspondence relationship in a country often translates into greater difficulty of conducting payment (and hence trade) with firms in that country. The Bank for International Settlements (BIS) and IMF provide this data. In addition, there are also data sources that provide some overlap with payment messaging, in the form of bank-intermediated finance flows, which are available in the BIS' Locational Banking Statistics. These involve various measures of cross border loans that capture foreign claims and liabilities on banks for trade finance. This overlap also exists with correspondent bank relationships; as Rice et al. (2020) pointed out, 'a cross border payment from one bank to another identifies a correspondent bank relationship' (Rice et al., 2020, p.2).[7]

The banks or official domestic sources generate the data for **bank-to-firm relationship** when available. The data on the volume of trade-specific credit delivered to firms in a country is sparse, although some banks might have this information. One publicly available indicator, however, is the ***trade finance rejection rates,*** which measures the proportion of banks' rejection of firms' trade finance application. These are captured by the Asian Development Bank (ADB) through surveys of banks as well as firms (DiCaprio et al., 2017; Kim et al., 2019). Kim et al. (2019) reported the findings from the 2019 survey where 112 banks from 47 countries, 336 firms from 68 countries, as well as export credit agencies and forfeiters, were surveyed. The banks are surveyed on, amongst other characterisations, the proportion and value of trade finance applications that are

[7] Efforts have been made to develop a systematic measurement framework for the trade finance market, see IMF (2018, 2019a, 2019b). To this end, IMF (2018, 2019a) provide a typology of trade finance instruments and identifies 3 categories: (1) Traditional bank intermediated instruments. These include loans to finance imports/exports, letters of credit and performance guarantees; (2) Open account or inter/intra firm trade finance. These include trade credit and advances between affiliated or unaffiliated enterprises; (3) Supply chain financing and other working capital-related financing. These include receivables purchasing such as factoring and loans/advances to suppliers against receivables.

rejected, as well as the details about the counterparties. Nevertheless, cross-country or cross-time comparison is difficult, given the nature of the survey data.

For **insurer-to-insuree relationship**, there is extensive data on export credit insurance. These are data pertaining to insured credit exposures, including bank credit and interim loans. They are taken from Berne Union members' direct insurance or lending. The data is stock data – the total outstanding long term and medium term exposures. Meanwhile, publicly provided export credit insurance are delivered by export credit agencies (ECAs) or other institutions with a similar function. The data is sparse, relying on domestic official sources when available in rare cases. Finally, another important feature is the reinsurance, in which either governments or multilateral organisations, programs such as ADB's Trade Facilitation Program or IFC's Global Trade Finance Program, insures local banks, export credit agencies, non-bank finance providers, or private insurers that disburse trade finance instruments. However, the data for this is hard to find, and mostly reserved in the multilateral organisations who hold such programs.

A common refrain we note from this observation is that financial institutions, which operate on the supply side of the trade finance market, generate most of these trade finance data. Firms who wish to engage in international trade generate even less information on the demand side.

4. Small- and Medium-Sized Enterprises and Trade Finance in the ASEAN Context

As a region with sophisticated international production networks, such as the ASEAN and East Asia, it provides a great opportunity for SMEs to take part in international trade. SMEs act as local suppliers to larger firms engaged in global value chains, but direct exporting activity is still limited (Lopez Gonzalez et al., 2019). Wignaraja (2012) presented an analysis of SME participation in production networks in five ASEAN economies: Indonesia, Malaysia, Philippines, Thailand, and Viet Nam. He found that, although large firms dominate production network engagement in ASEAN economies, there are signs that SMEs have only modestly increased their participation since the late 1990s. This is linked to firm-specific

factors such as firm size, foreign ownership, skills, technological capabilities, and access to credit. Access to credit for working capital and investment is typically a binding constraint on the involvement of SMEs in production networks. Lee, Narjoko, and Oum (2019) found that awareness and utilisation of Free Trade Agreements (FTAs) was low amongst SMEs in ASEAN. Further, there was inadequate government support. The lack of finance for production and export was also a major barrier for small firms.

ASEAN, as a group of emerging and developing countries, has made international integration of SMEs a priority policy goal. The ASEAN Economic Blueprint 2025 mentions that 'in the next decade, ASEAN will also provide a new emphasis on the development and promotion of micro, small and medium enterprises (SMEs) in its economic integration efforts.' Improving access to finance has been a part of ASEAN's vision, particularly to build a resilient, inclusive, and people-centered ASEAN. Part of this is strengthening the role of SMEs (Element D1 of the ASEAN Economic Community Blueprint 2025 [ASEAN Secretariat 2015]), wherein improving access to finance is a key strategy. [8]

Table 2 shows the number of SMEs and the extent of SME employment for ASEAN using data from the ADB SME Monitor (ADB, 2020). Indonesia is clearly the country most exposed to SME activity, with over 60 million SMEs employing some 115 million people. This also reflects the country's size overall. However, from these numbers, we can also denote the average employment per SME by dividing the second column by the first. This offers a sense of the scale of SME operations in each country. In Indonesia, each firm employs almost two people, while Viet Nam SMEs employ approximately 11.6 people and Singapore SMEs employ around 10 people per firm.

[8] International integration of SMEs is especially important for ASEAN to pursue an export-oriented growth strategy. The region has been actively conducting trade liberalisation, with complete liberalisation of tariffs in intra-ASEAN trade by 2018, and bilateral and regional free trade agreements with East Asia (including the recently concluded RCEP). For SMEs to fully benefit from these efforts, however, remaining barriers to their international integration needs to be removed.

Table 2: Small- and Medium-Sized Enterprises, Employment, ASEAN

Country	Number of SMEs	SME Employment	SME Employment to Total
Brunei Darussalam	5,615	65,444	56.30
Cambodia	512,780	1,345,100	71.75
Indonesia	60,410,156	115,211,574	96.95
Lao PDR	124,539	472,380	82.63
Malaysia	907,065	-	63.86
Myanmar	54,990	-	-
Philippines	934,646	4,993,807	62.90
Singapore	254,217	2,483,333	72.34
Thailand	2,899,336	11,908,623	81.31
Viet Nam	470,900	5,592,662	42.33

ASEAN = Association of Southeast Asian Nations; SME = small and medium-sized enterprise.
Source: Asian Development Bank (2020), *Asia Small and Medium-Sized Enterprise Monitor 2020 – Volume I: Country and Regional Reviews* (October). Available at http://dx.doi.org/10.22617/TCS200290-2.

Indonesia also has the highest proportion of people employed in SMEs, with nearly 97% of total employment. SME employment to total employment is also high in Thailand with 81.31% and the Lao People's Democratic Republic (Lao PDR) with 82.63%, while the ratio is relatively low for Viet Nam.

Table 3 presents SME GDP and the share of SME GDP to total GDP for ASEAN countries with available data from ADB (2020). As in the data for the number of SMEs and SME employment, the GDP values depend on size. The data presenting the ratio of SME GDP to total GDP shows that, again, Indonesia has relatively high SME economic activity (60.43%). The other countries for which data is available show that the SME to total GDP ratio is around 1/3 to 1/2.

Table 3: Small and Medium-Sized Enterprises, GDP, ASEAN

Country	SME GDP (US$ millions)	SME Share of GDP
Brunei Darussalam	3,500	26.68
Cambodia	-	-
Indonesia	496,547	60.43
Lao PDR	-	-
Malaysia	112,971	36.87
Myanmar	-	-
Philippines	-	-
Singapore	141,280	46.91
Thailand	176,068	41.19
Viet Nam	-	-

ASEAN = Association of Southeast Asian Nations; GDP=gross domestic product.
Source: Asian Development Bank (2020), *Asia Small and Medium-Sized Enterprise Monitor 2020 – Volume I: Country and Regional Reviews* (October). Available at http://dx.doi.org/10.22617/TCS200290-2.

Given the importance of SMEs to economic activity, what are some of the main issues identified in the literature? SMEs are arguably more reliant on external finance to take part in international trade. The presence of fixed cost of exporting introduces economies of scale in production, so under certain volume thresholds, entering the export market is not economically efficient. Usually, SMEs rely on internal sources of finance, but these are not enough to scale up production. The higher cost of obtaining external finance thus reduces SME participation in international trade. This reduces their chances of improving their productivity and growth, considering studies that internationalisation correlates with growth (Hallward-Driemeier et al., 2002; Lu and Beamish, 2001; and Wang, 2016).

In particular, several studies demonstrate the role of financial constraints in limiting SME growth. Girma and Vencappa (2012) studied the determinants of Total Factor Productivity (TFP) growth for firms in India, focusing on the role of bank versus nonbank financing and government financing. They found that bank financing is more impactful than nonbank and government financing, and that smaller firms benefit more from bank financing than larger firms. In contrast, Du and Girma (2012) performed a similar exercise for China and found that self-financing results in higher TFP growth for small firms, while bank loans are more

important for larger firms. Abor et al. (2014) found that SME access to bank finance increased their likelihood of internationalisation, which could lead to increased sales, profitability, competitiveness, market share, and technological awareness. SME internationalisation could also improve the likelihood of SME survival and success and improve their contribution to the economy. Cornille (2019) found that credit constraints were detrimental for employment amongst SMEs experiencing a negative demand shock or facing strong product market competition. Shinozaki (2012) presented empirical analyses of bank financing for SMEs in select Asian countries. A lack of access to adequate finance is one of the core factors impeding SME development. Information asymmetry between lenders and SME borrowers increases adverse selection and moral hazard risks for financial institutions and widens the supply-demand gap in SME financing.

There are several studies on the relationship between financial constraints and SME participation in international trade. Abor et al. (2014) investigated access to bank intermediated finance for SMEs and its impact on exports using data from firms for Ghana for 1991–2002. The paper found that access to bank finance increased the probability of SME firms engaging in export activities. Baker et al. (2020) found that export-oriented firms in India exhibited a greater preference for short-term finance, trade credit, and external equity financing. Hwang and Im (2016) investigated the effect of bank intermediated trade finance shocks on Korean exports. The results showed that a negative shock to both instruments – foreign trade loans extended by commercial banks and documentary bills – adversely affected exports, particularly SME exports. The trade financing condition explained as much as 10%–14% of the variation in SME exports, suggesting that trade finance shocks have a greater effect on SME exports than on the exports of large firms. The effects of trade finance on SME exports vary upon whether it is pre- or post-shipment financing. A decline in trade loan supply, which represents a pre-shipment finance instrument, has a more immediate adverse effect on SME exports, possibly preventing current batches of goods from being shipped. A decline in documentary bill supply, which is a post-shipment instrument, has a more delayed effect on SME exports because the current batch of goods has already been shipped.

There is also a gender dimension to trade finance and SME internationalisation. Di Caprio et al. (2017) stated that women-owned firms engage differently and face different barriers regarding trade finance. In addition to other barriers related to ownership of capital that make access to finance already difficult women-owned SMEs face even greater difficulties in accessing capital. Women-led firms lack access to even basic banking services that are needed to grow. Even once these firms secure banking access and typical financial instruments, such as working capital, they face possible additional exclusion when they apply for trade finance.

4.1. SME Financial Development Trade Finance in ASEAN

SME Finance in ASEAN

Table 4 shows some data derived from The World Bank's Enterprise Surveys on financial indicators of ASEAN firms, distinguished by size and exporting status. For each indicator, we presented three rows of statistics. The first of these pertained to all firms. The second row is for SMEs and the third is for SMEs who are exporters. We show data for eight ASEAN member states, excluding Brunei and Singapore due to unavailable data. For comparison, we also included averages for all countries and ASEAN overall. This data does not provide direct evidence of trade finance, but general access to finance for SMEs.

Table 4. Selected Indicators of ASEAN Firms' Access to Finance

Indicator	ALL	SEA	CA	ID	LA	MA	MM	PH	TH	VN
Percent of firms with a checking or saving account	88.0 86.5 91.8	74.4 70.7 74.6	39.7 37.7 25.0	76.5 69.0 83.5	60.2 57.7 71.1	77.8 74.7 69.4	50.1 46.8 71.4	95.1 94.1 97.3	93.3 92.5 97.5	52.7 51.9 51.9
Percent of firms with a bank loan or line of credit	33.2 29.9 40.9	29.4 26.3 35.4	15.6 16.8 16.7	32.1 28.3 43.0	26.2 24.2 23.7	37.2 34.0 40.4	18.3 16.3 23.8	27.9 25.1 24.3	14.3 11.6 23.2	48.2 45.0 51.1
Proportion of loans requiring collateral (%)	71.9 71.0 71.3	83.3 83.0 83.7	63.8 67.3 100.0	92.2 91.7 84.4	91.8 90.5 88.4	65.5 66.3 74.2	96.4 98.8 100.0	64.5 60.2 63.0	84.0 75.8 92.9	95.1 96.5 95.7
Value of collateral needed for a loan (% of the loan amount)	206.2 213.6 194.5	247.1 261.2 257.0	266.6 278.8 249.1	248.0 253.0 226.6	245.2 241.2 256.4	243.2 253.7 276.5	344.5 354.9 376.4	196.6 201.8 272.5	143.5 147.6 99.2	245.2 262.6 261.7
Percent of firms not needing a loan	44.4 44.9 45.1	42.8 44.5 39.8	45.0 43.4 46.7	34.8 34.2 41.8	53.0 54.2 57.9	37.3 39.4 29.4	54.0 54.5 38.1	52.1 55.3 57.9	34.5 37.4 31.7	44.1 44.9 35.0
Percent of firms applying for new loans in the last year	21.9 19.4 26.9	20.4 18.3 31.2	12.6 13.0 10.7	13.0 12.1 18.0	20.6 19.5 21.1	25.3 23.1 43.9	13.9 12.0 28.6	18.4 15.2 13.6	7.9 6.5 8.2	43.5 41.0 50.4
Percent of firms whose recent loan application was rejected	7.2 8.9 5.6	3.2 4.2 3.0	2.6 3.0 33.3	1.9 2.9 0.0	3.1 3.5 0.0	1.0 1.5 0.0	8.3 7.6 0.0	2.5 4.3 7.7	3.6 5.7 20.0	4.1 5.4 4.6
Percent of firms using banks to finance investments	30.1 27.3 33.3	24.8 20.7 28.2	8.6 9.2 7.7	25.0 21.0 62.5	18.0 15.4 7.7	58.1 54.8 48.2	11.5 9.8 16.7	18.7 16.9 7.8	21.6 21.3 46.2	33.8 30.4 36.8
Proportion of investments (i.e. fixed assets) financed internally (%)	67.5 68.0 65.0	74.2 77.8 72.0	93.9 93.0 92.7	69.4 70.9 50.6	83.0 85.4 92.3	49.5 53.7 58.7	85.7 87.3 85.0	78.9 79.4 84.9	73.0 76.4 53.9	66.2 69.3 64.5

Proportion of investments (i.e. fixed assets) financed by banks (%)	17.6	13.3	2.7	9.3	11.9	17.7	6.8	15.1	14.6	18.3
	16.1	11.4	2.4	8.4	10.5	19.8	5.5	13.2	15.8	16.0
	18.7	13.7	3.9	18.8	7.7	10.7	6.7	6.3	38.5	18.7
Percent of firms using banks to finance working capital	33.3	32.6	22.5	38.4	30.0	58.2	16.4	14.8	28.8	41.5
	30.1	29.4	21.7	32.1	29.2	53.9	14.5	13.9	26.8	39.0
	40.7	45.0	13.3	49.4	29.0	73.6	33.3	13.8	43.9	41.6
Percent of firms using supplier or customer credit to finance working capital	27.6	22.8	7.0	40.8	5.5	51.0	19.9	7.5	12.3	14.6
	26.8	20.4	7.4	35.3	4.6	45.9	20.2	8.4	10.5	14.6
	32.8	33.9	6.7	51.9	10.5	67.2	19.1	11.2	14.6	17.5
Proportion of working capital financed by banks	13.2	12.8	9.2	10.6	15.2	18.7	7.0	7.1	15.9	18.4
	12.0	11.7	8.5	9.0	14.8	18.9	6.3	6.6	14.5	15.9
	14.9	16.1	3.3	12.9	16.8	19.5	16.0	8.4	24.3	18.6
Percent of firms identifying access to finance as a major or very severe constraint	22.0	12.0	11.7	21.2	21.7	10.4	12.1	10.6	2.3	9.8
	23.6	12.3	12.4	19.3	22.6	10.6	12.3	12.0	2.4	10.7
	21.8	10.7	29.6	9.0	18.4	8.9	15.0	10.1	3.7	12.9

ALL = All countries; SEA = ASEAN countries; CA = Cambodia (2016); ID = Indonesia (2015); LA = Lao People's Democratic Republic (2018); MA = Malaysia (2015); MM = Myanmar (2016); PH = Philippines (2015); TH = Thailand (2016); VN = Viet Nam (2015).

Note: For each indicator, the first row represents calculation results for all firms; the second, for all SMEs; and the third, for all exporting SMEs.

Source: Enterprise Surveys, The World Bank, http://www.enterprisesurveys.org.

The data revealed a limited use of external finance amongst ASEAN firms. Less than 30% of ASEAN firms reported having a bank loan/line of credit. The percentage is even less amongst SMEs. In addition, only about one in five ASEAN firms applied for a new loan in the previous fiscal year. However, this number is higher, at 31%, amongst exporting SMEs than for SMEs in general. This relative under-utilisation of bank loans amongst firms in the region coincides with the fact

that as much as 83% of bank loans in ASEAN require some collateral. While the size of the collateral varies across ASEAN member states, it averages substantially higher than the world average at around 2.5 times the loan amount, with SMEs having to contend with even higher requirements.

Table 4 also shows that banks play a less prominent role in meeting firms' financing needs. Approximately 75% of ASEAN SMEs used internal sources of funds to finance their investments. The remaining 25% used bank loans to finance their working capital, but this increased to 45% for exporting SMEs. However, compared to all SMEs, this form of financial engagement is significantly higher (45%) for exporting SMEs in Indonesia, Malaysia, Myanmar, and Thailand. Even amongst those who used bank loans, bank financing on average was only responsible for less than 14% of their working capital and investments spending. This indicates that there is ample room for much needed improvement in international trade in the region, especially because insufficient working capital is a prominent factor that holds firms – especially SMEs – back from participating in international trade. Another common source of financing for working capital for exporting SMEs in Indonesia and Malaysia is credit from suppliers or customers, which over half of the SMEs rely on.

Most of the indicators in Table 4 suggest that ASEAN SMEs have greater difficulties in accessing finance from external sources compared to firms in general. Despite this, exporting SMEs seem better connected to external finance than all other SMEs, which likely corresponds to their growth strategy and their ensuing greater need for financing. It is also worth noting the diversity across ASEAN countries, where firms in more developed economies with more established financial markets and inclusions, such as Malaysia, have better access to external finance.

Why is SME financing low in ASEAN? There could be multiple reasons. For example, Machmud and Huda (2011) examined access to finance for SMEs in Indonesia. The study found that the share of SMEs that rely only on external formal sources made up only 3% of total respondents. The dependency of SMEs on internal and/or informal financial sources, combined with external formal sources, to maintain their businesses may reflect not only the presence of uncertainty but also

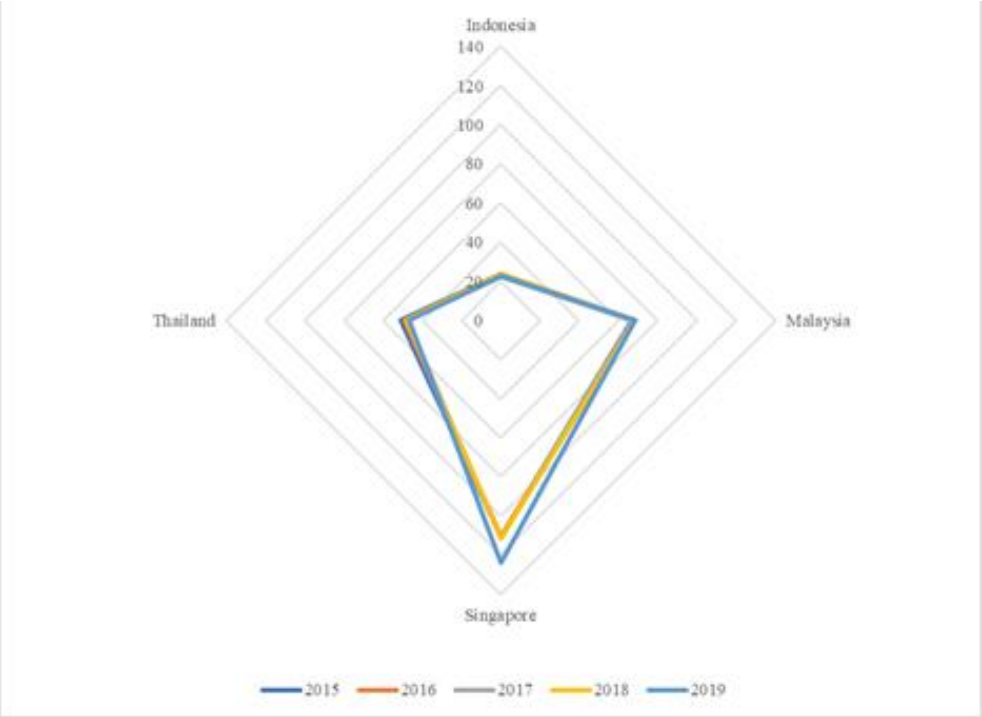
high opportunity cost of accessing external sources. Overall, this may indicate that despite having access to external formal sources of finance, most SME respondents in Indonesia still have traditional mindsets in doing business. This also explains the low share of loan interest payments in the cost structure.

Yoshino and Taghizadeh-Hesary (2018) presented a study that analysed the difficulties of Asian SMEs in accessing finance and provided measures to mitigate them. Capital market financing is not a realistic option for SMEs in Asia because most Asian countries are bank-dominant economies with underdeveloped capital markets and a lack of venture capital. The study found that two factors made it difficult for SMEs to access financing: (1) lack of information infrastructure for SMEs and (2) insufficient collateral and high interest rate. The study suggested three much needed elements to tackle such difficulties: (1) credit guarantee schemes (CGS) developed by governments; (2) SME credit risk databases, credit bureaus, and SME credit ratings; and (3) specialised banks for SME financing.

Trade Finance in ASEAN

Following are some observations pertaining to the trade finance landscape for ASEAN economies for the measures presented above, subject to the availability of data. The first observation is on the total outstanding credit to the nonfinancial sector as a percentage of GDP from the Bank for International Settlements. The credit data provided here is not only for international trade, but for all credit flows. This is presented by country, based on available data, in Figure 2. Singapore has the highest amount of outstanding credit, followed by Malaysia, Thailand, and Indonesia. This reflected Singapore's position as a destination for credit flows. It is also noteworthy that outstanding credit remained relatively stable from 2015 to 2019, except for a sizable increase in Singapore in 2019.

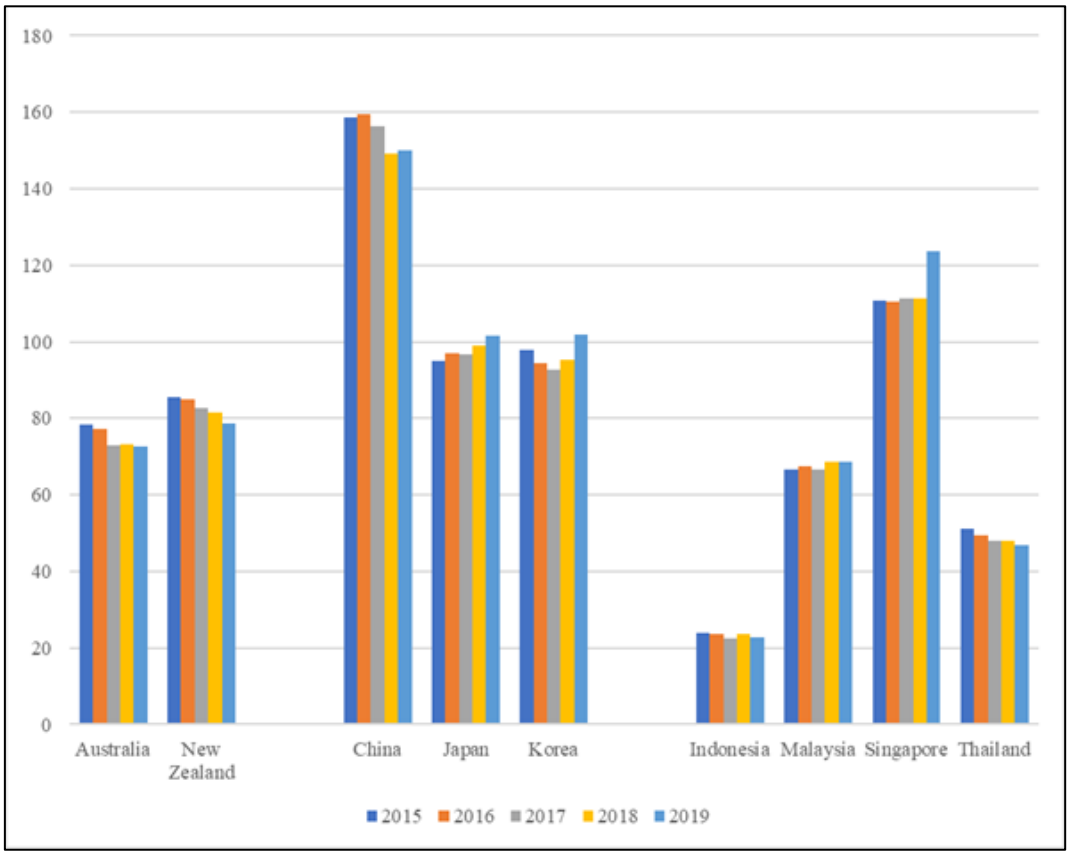
Figure 2: Total Credit to Non-Financial Firms -- ASEAN Comparison (% of GDP)



ASEAN = Association of Southeast Asian Nations
Source: Bank for International Settlements. Credit Statistics. https://www.bis.org/statistics/totcredit.htm?m=6_380_669

We also compared the extent of outstanding credit from the sample of ASEAN nations with those from other countries in Asia and the Pacific: Australia, China, Japan, Korea, and New Zealand (Figure 3). Outstanding credit for Singapore was higher than the rest, except for China, while outstanding credit for the other ASEAN countries was lower, except for Malaysia, which was broadly similar to Australia and New Zealand.

Figure 3: Total Credit to Non-Financial Firms – ASEAN Comparison (% of GDP)

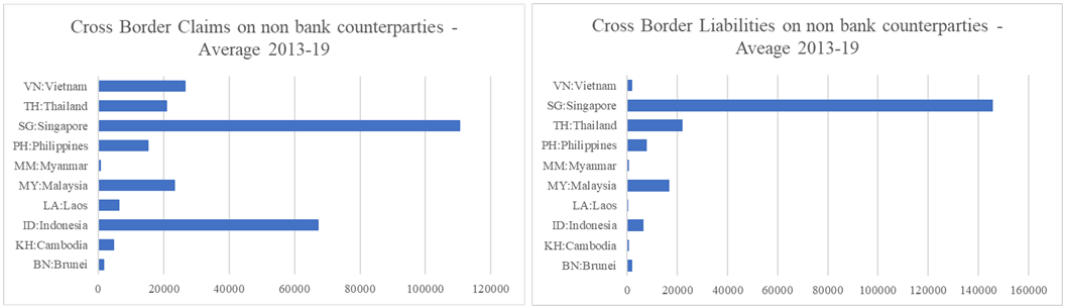


ASEAN = Association of Southeast Asian Nations.

Source: Bank for International Settlements. Credit Statistics. https://www.bis.org/statistics/totcredit.htm?m=6_380_669

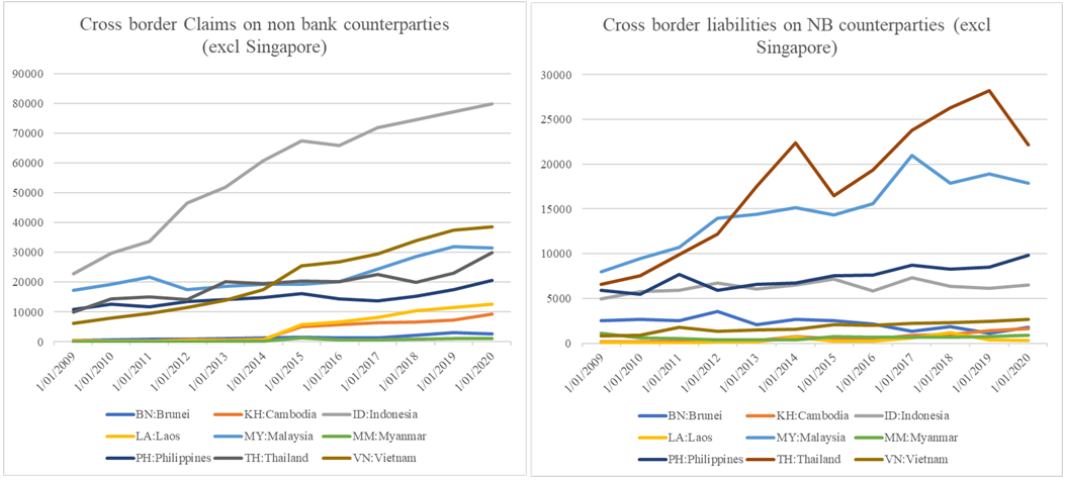
The next proxies for trade finance are cross-border claims and liabilities from global banks to non-bank counterparties in ASEAN countries. These claims from the BIS locational banking statistics database are in US dollars. Again, these positions are not only for international trade but are an excellent source of information on cross-border flows. Figures 4 and 5 show averages for each country for 2013–2019. Singapore has both the highest amounts and growth rates of cross-border claims and liabilities, with high levels of claims recorded against Indonesian counterparts. The rest of the ASEAN countries that were sampled are relatively low. Figures 4 and 5 show the dynamic properties of each outstanding amount (with Singapore omitted), where we can see that there was a general increase in cross-border activities for more countries during that time.

Figure 4: Average Cross Border Claims and Liabilities, ASEAN, 2013–2019 (US$ Billion)



ASEAN = Association of Southeast Asian Nations.
Source: Bank for International Settlements. Credit Statistics.
https://www.bis.org/statistics/totcredit.htm?m=6_380_669

Figure 5: Cross Border Claims and Liabilities, ASEAN, 2013–2019 (US$ Billion)



ASEAN = Association of Southeast Asian Nations.
Source: Bank for International Settlements. Credit Statistics.
https://www.bis.org/statistics/totcredit.htm?m=6_380_669

The next observation was on factoring activities, which relate to trade finance. Table 5 presents data from Factor Chain International Annual reviews for 2014–2020, which shows international factoring turnover, as well as the proportion of international factoring to total factoring by ASEAN country. When we observe the international factoring turnover data, we see Singapore has the highest rates, showing a high level of sophistication in its banking markets and general pro-business environment. Viet Nam had the highest international to total factoring percentage. This suggests that most of the factoring activity is for domestic rather

than foreign trade for most countries, except for Viet Nam and, to a lesser extent, Singapore.

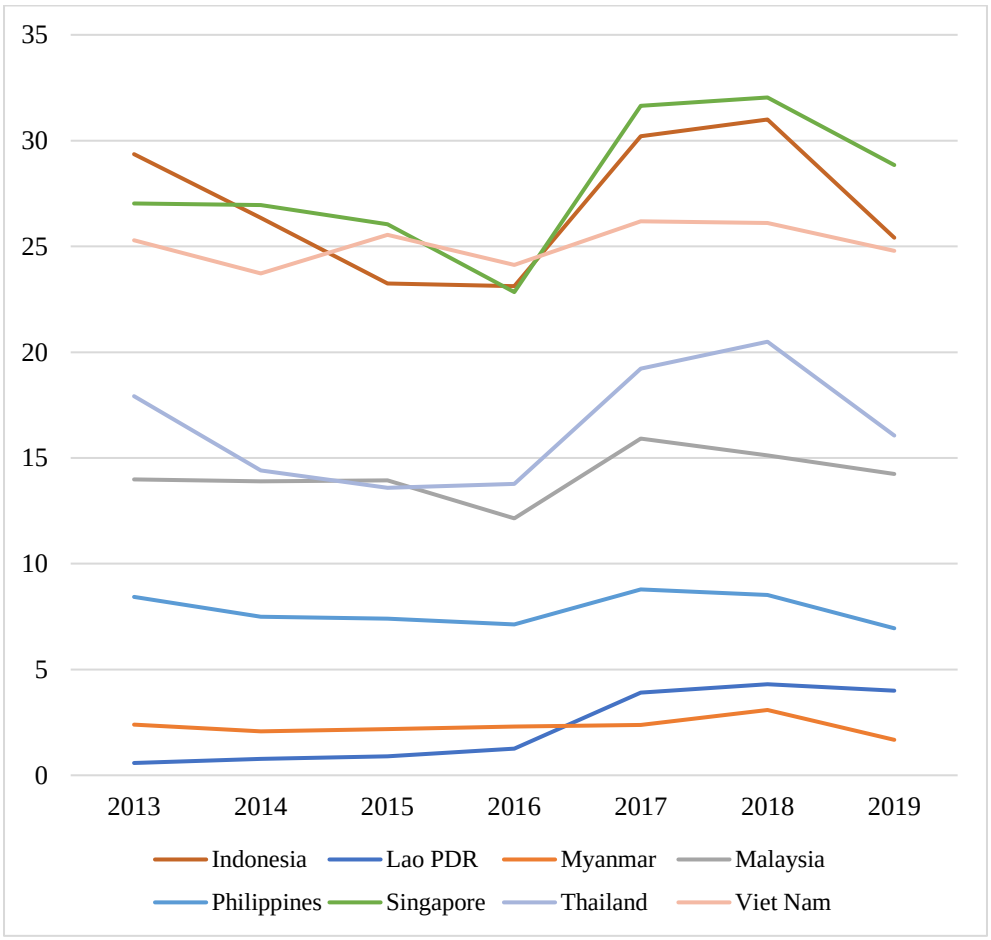
Table 5: International Factoring (in Euro million)

	Year	*Int*	*Int factor share (to total)*
Indonesia	2013	11	1.34%
	2014	10	1.23%
	2015	2	0.29%
	2016	2	0.29%
	2017	2	0.29%
	2019	137	29.91%
Malaysia	2013	357	20.03%
	2014	357	20.03%
	2015	230	69.70%
	2016	657	43.03%
	2017	330	20.00%
	2018	72	1.61%
	2019	72	1.61%
Singapore	2013	3,440	34.50%
	2014	8,086	21.37%
	2015	16,700	42.93%
	2016	21,000	51.85%
	2017	18,700	42.50%
	2018	18,700	42.50%
	2019	16,830	42.50%
Thailand	2013	36	1.08%
	2014	44	1.06%
	2015	48	1.09%
	2016	150	2.83%
	2017	150	2.68%
	2018	0	0.00%
	2019	0	0.00%
Viet Nam	2013	80	80.00%
	2014	80	80.00%
	2015	285	85.07%
	2016	492	74.77%
	2017	300	42.86%
	2018	1,100	100.00%
	2019	1,100	100.00%

Source: Factor Chain International. Annual Reviews. https://fci.nl/en/annual-review

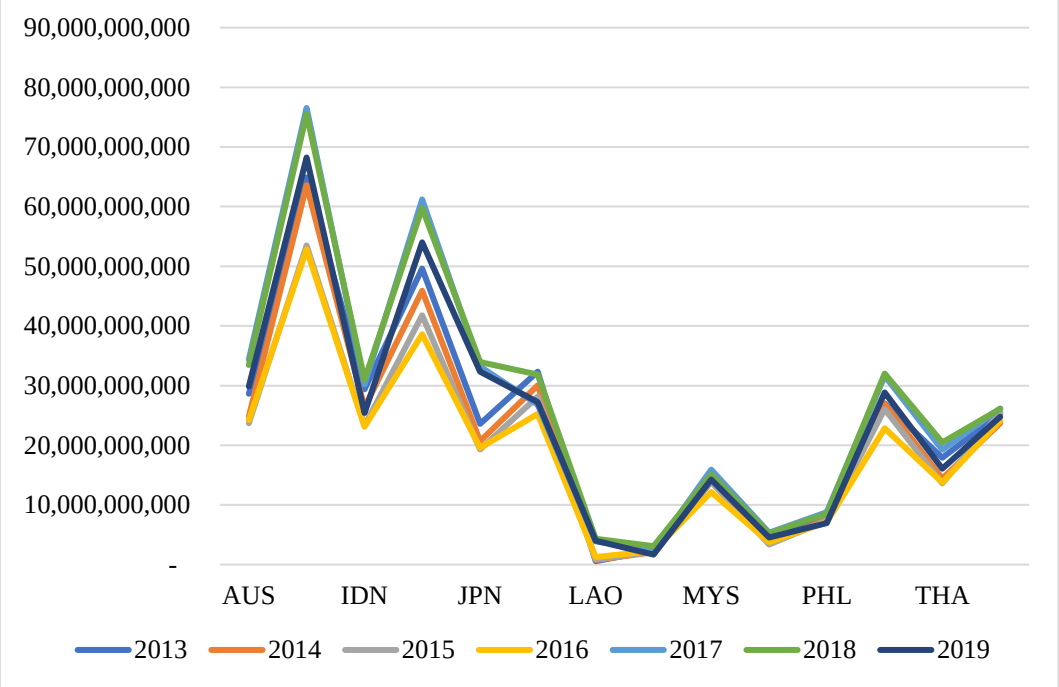
The final observation was on the extent of export insurance as reported by the Berne Union. Figure 6 presents a time series for available ASEAN countries, while Figure 7 presents a comparison with other countries in Asia and the Pacific. Here, Indonesia, Singapore, and Viet Nam were high. Lao PDR and Myanmar recorded the lowest exposures in the sample. We also noted the enormous increase in export credits in 2015. We can compare these exposures with nearby countries. As with the credit data above, China recorded the highest levels with the highest ASEAN countries exhibiting similar exposures to Japan and Korea. From our observation of the data, Singapore records materially higher activity in trade finance and related markets. Viet Nam presents as having a high level of activity as well.

Figure 6: Insured Export Credit Exposures (US$ bill)



Lao PDR = Lao People's Democratic Republic.
Source: Berne Union. https://www.berneunion.org/

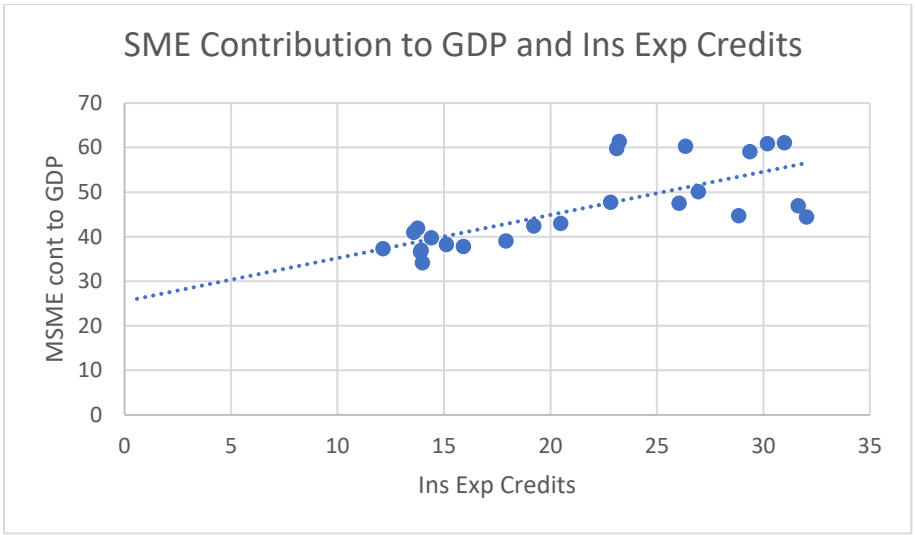
Figure 7: Insured Export Credit Insurance – Comparison (in US$)

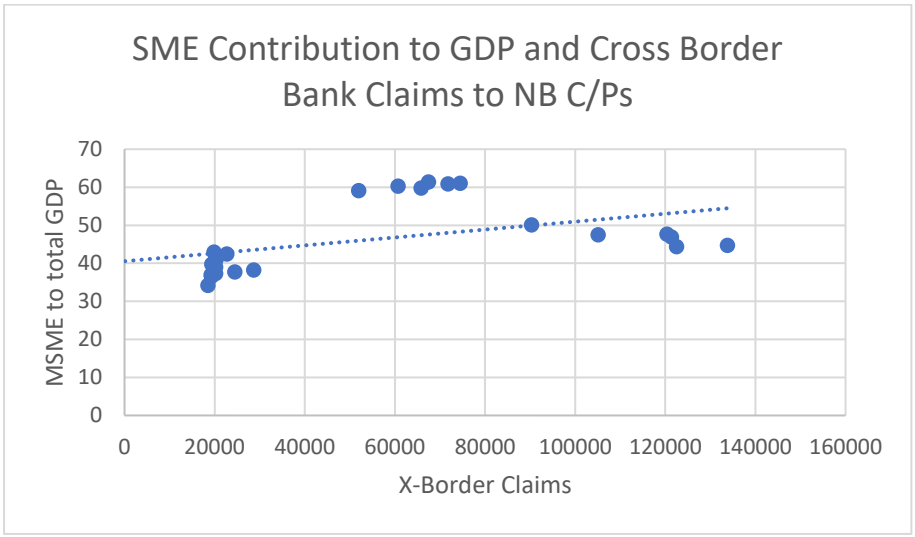


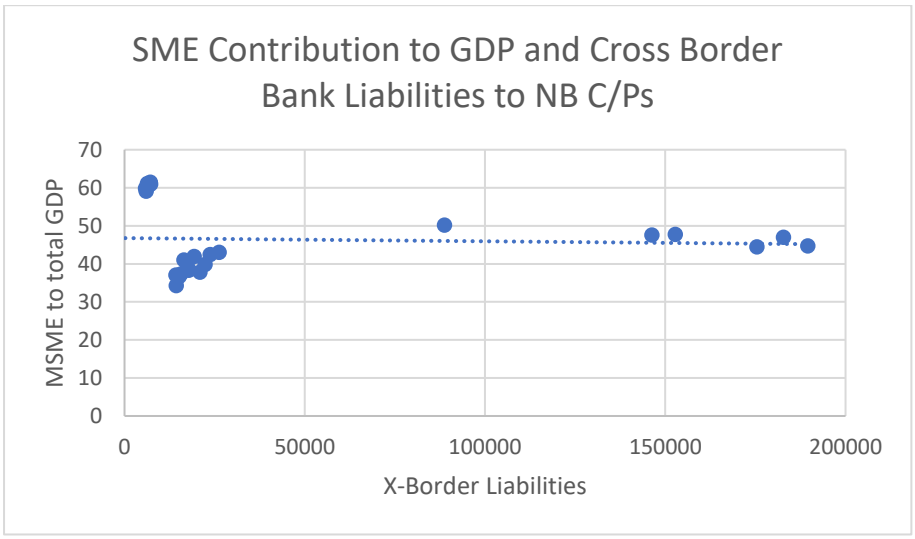
AUS = Australia; CHN = People's Republic of China; IDN = Indonesia; IND = India; JPN = Japan; KOR = Democratic People's Republic of Korea; LAO = Lao People's Democratic Republic; MMR = Myanmar; MYS = Malaysia; NZL = New Zealand; PHL = Philippines; SGP = Singapore; THA = Thailand; VNM = Viet Nam.
Source: Berne Union. https://www.berneunion.org/

Using the trade finance measures presented above, the following presents a brief evaluation of the relationship between trade finance and some basic SME outcomes, as well as between trade finance and trade outcomes, for ASEAN countries (subject to data availability for each measure). Figure 8 examines the association between trade finance and SME share of GDP. The first panel shows a strong positive association between insured export credits and SME share of GDP, suggesting that an increase in trade finance activity may bring about beneficial outcomes for SMEs. The next panels reveal a positive connection between cross border assets and SME GDP share, but no association between cross border liabilities and SME GDP share.

Figure 8: Trade Finance, Share of SME to GDP (%)



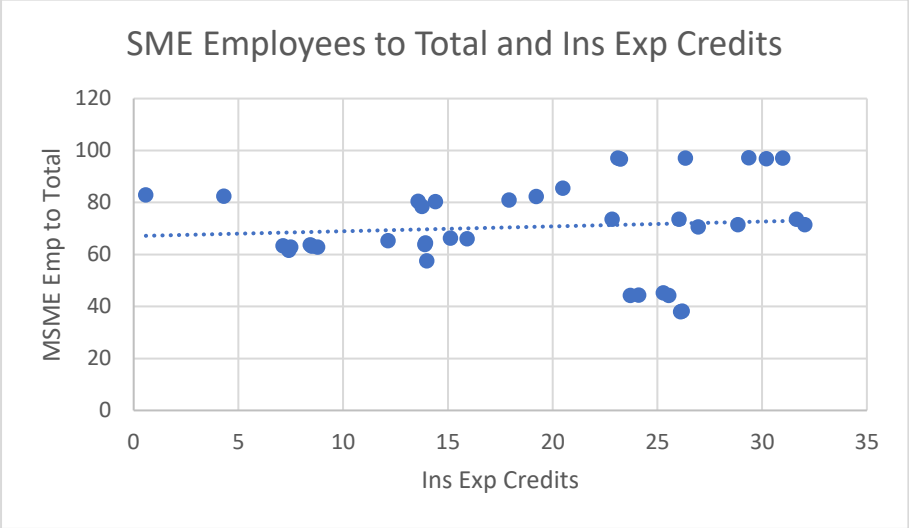


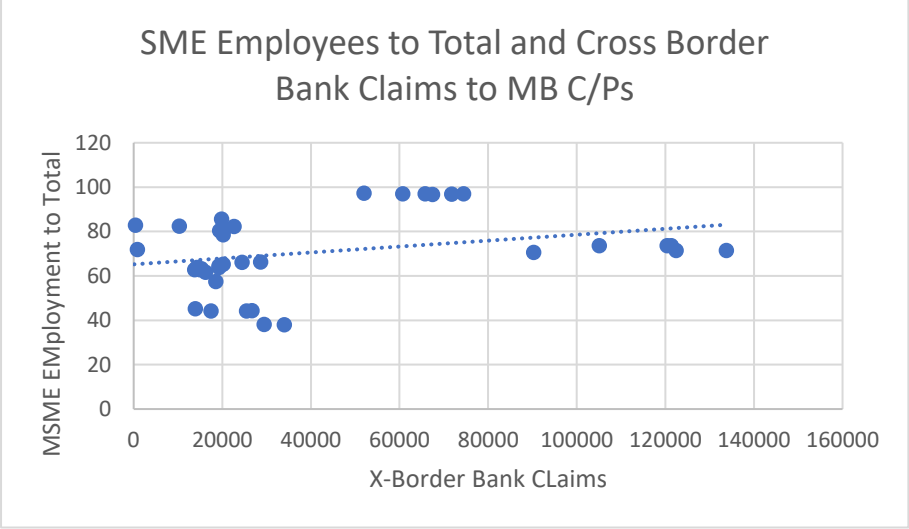


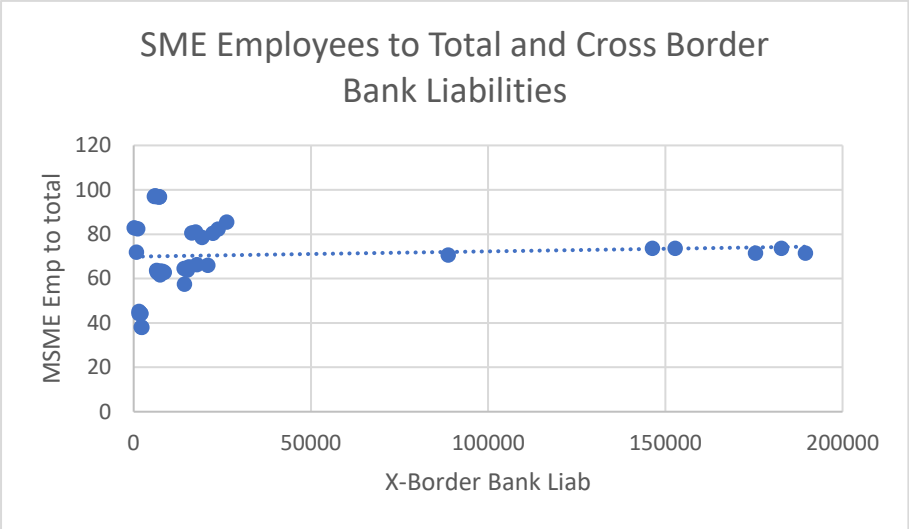
GDP = gross domestic product; Ins Exp = insured export; MSME = micro-, small-, and medium-sized enterprise; NB C/P = counterparties.
Source: Authors calculations.

Figure 9 presents scatterplots capturing the relationship between trade finance and SME share of employment (or SME employment to total employment). For all three graphs, which capture insured trade credits, cross border assets, and liabilities, the association is positive. This implies that the increasing trade finance activity in ASEAN is associated with higher SME employment.

Figure 9: Trade Finance and SME Employment Share (%)





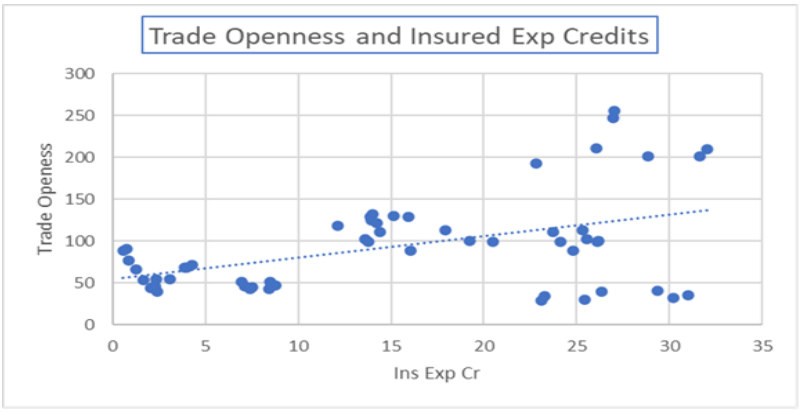


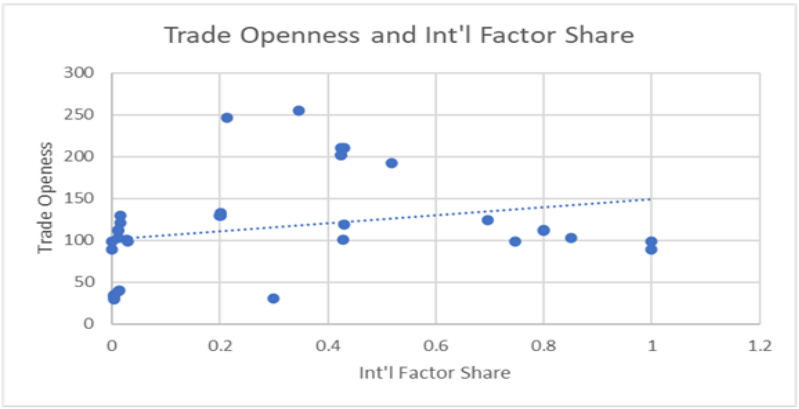
MB C/P = Counterparties; MSME = micro-, small-, and medium-size enterprise.
Source: Authors' calculations.

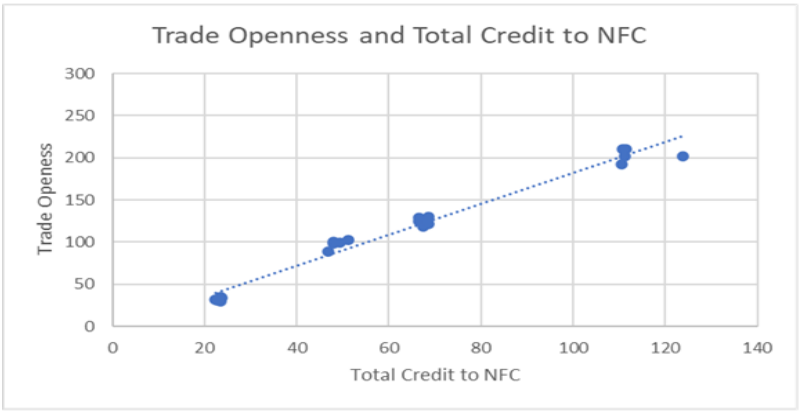
Figure 10, which has four panels, examines the connection between trade finance and trade openness ([imports + exports]/GDP). The first panel is the relationship between trade openness and insured export credits. The second looks at trade openness and international factor shares. The third examines the relationship with total credits to nonfinancial corporations, while the fourth looks at the connection between trade openness and cross border claims. All four panels show a positive association, indicating that greater activity in trade finance is associated with greater international trade. The relationship with total credit to NFCs appears especially strong for the country/years sampled.

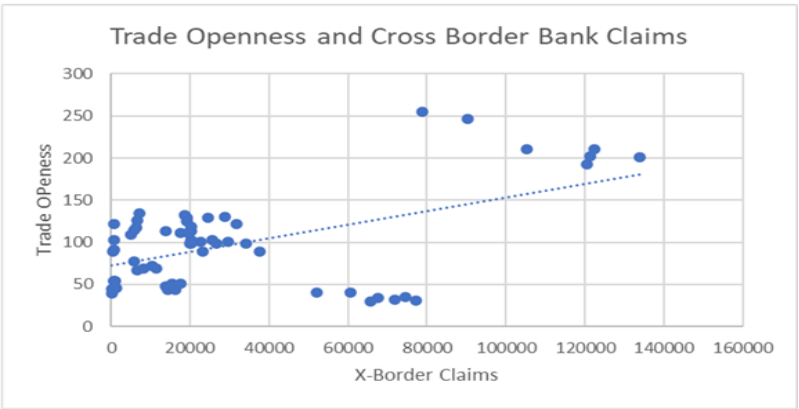
For the ASEAN nations examined, trade finance correlates positively with the share of SMEs to GDP, employment, and openness to trade. This ought to motivate the need for further research in this area to establish causal relationships. Such research might include the analysis of the determinants of (various indicators of) trade finance and the effects of activity in trade finance markets on a range of economic well-being outcomes.

Figure 10: Trade Finance and Trade Openness (% of GDP)









Source: Authors' calculations.

5. Conclusion and Way Forward

This paper assessed issues relating to trade finance focusing particularly on SME access to trade finance within the ASEAN region. The available data shows the importance of SMEs in generating economic activity and employment. Yet they are hampered by their limited access to credit, especially to trade finance. Existing studies on the relationship between financial development, trade, and economic growth suggest that a trade finance gap can hurt growth by limiting the participation of SMEs in international trade. This is often exacerbated during times of economic and financial crisis.

We proposed a conceptual framework that relates availability of trade finance to strengths of relationships between different actors in the trade finance architecture, which include firm-to-firm relationships, bank-to-bank relationships, and firm-to-bank relationships. The important roles of government policies and regulations, as well as international development institutions, were also discussed.

There is currently a widely acknowledged lack of consistent data and an absence of a coherent and coordinated methodology to measure and collect trade finance statistics. Systematic surveys of banks and firms within countries is needed to fill this data gap. Such surveys can gather information on the likely sources of, and barriers to, trade finance problems within each country.

While this data issue is no doubt problematic, trade finance encompasses a range of financial products, and there are several proxy measures which allow for a picture to be painted on certain aspects of the trade finance markets that exist globally. We have presented several such proxies as applied to a sample of ASEAN countries, subject to data availability. In the measures presented, we found Singapore showed the most involvement in trade finance markets. This result is emphatic and unsurprising given its position within the region as a financial centre.

The paucity of data presents an opportunity to investigate the relationship between the disparate measures of trade finance. Such work might include categorising trade finance data according to the types of relationships they represent (as per our conceptual framework), as well as creating composite indicators of trade finance using relevant methodologies.

Further, we employed these measures of trade finance activity to see how they correlate with key indicators of SME activity and trade. Here, we found that some trade finance associated positively with the share of SMEs to GDP, employment, and trade openness for the ASEAN nations that were examined. Further research in this area is warranted to establish causal links. Such research may include analysing the determinants of the various indicators of trade finance and the impact of trade finance activity on economic well-being – generally and for SMEs.

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