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Regulatory Issues Affecting Trade and Supply Chain Finance

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Key Messages

- Financial services is the invisible glue of global supply chains. The global financial crisis showed that problems related to cost and access to financial services adversely impact global trade volumes. Lack of financing threatened the stability of established global supply chains.

- Supply chain finance is one form of trade financing that has experienced rapid growth in recent years. The paper notes the current lack of globally agreed definition of supply chain finance and thus takes the liberty to discuss two ways of understanding supply chain finance and the different policy issues under each.

- On one hand, supply chain finance can be understood as 'financing the supply chain'. This may be akin to structured trade financing whereby financial institutions fund various stages of the trade transactions – from raw material sourcing to factory and production, to transport, to warehouse, to shipping, all the way up until the product reaches the buyer. Structuring trade financing means that financial institutions take care that they fund various stages while covering and mitigating their risks at each stage of the supply chain using various financing instruments. Thought it should be stressed that structured trade finance has been used for decades before the term 'supply chain finance' existed and long before it became mainstream, the advantage of discussing supply chain finance in this vein is that it facilitates a fuller appreciation of the different challenges that financing institutions face at each stage of the supply chain.

- Supply chain finance helps the real economy because it facilitates the movement of goods both domestically and across borders. The paper provides illustrations on how supply chain financing is employed, and how it lubricates trade flows.

- Various risks in the supply chain include performance risks (e.g., when the supplier delivers products with below par quality), credit risk (e.g., possible default of the borrower), warehousing risk (e.g., inventory losses, theft, fraud), transport risk (e.g., breakage, losses, accident). In addition, there are general risks affecting all stages of the supply chain such as political risk, price risk and other macroeconomic risks. Different risk mitigants also exist for each type of risk such as guarantees, fidelity insurance, credit risk insurance, transport insurance, and others.

- Unlike traditional corporate lending which relies mainly on the strength of the debtor's balance sheet, structured trade financing relies heavily on asset based lending. Structured trade financing usually uses the traded goods or underlying shipment as collateral, as well as invoice and approved payable. SMEs, usually with weak balance sheets, can therefore potentially benefit from financing that is asset based, especially if they have good products and high growth potential, and in addition, are linked to a global supply chain of a large buyer with very high credit rating.

- SMEs consider access to finance as very significant obstacles to business growth. Many of them are unbanked and rely for working capital financing from sources other than banks. Those that are part of global supply chains are also increasingly squeezed by the increasing use of open account trade financing and the tendency of large buyers to demand for longer payment terms.

- On the creditors side, survey of financial institutions that was carried out for this paper reveals that, besides credit risk, the major reasons for rejecting trade financing proposals relate to compliance risks associated with know-your-customer (KYC) requirements, customer due

diligence (CDD), financial crime risk, as well as performance risk. Performance issue constitutes the most number of UNCITRAL litigation cases.

- Creditors find lack of title document, inadequate, inaccurate, and fraudulent documents, and stringent insurance policies as major problems related to the transportation stage of the supply chain.

- Warehousing challenges in APEC include insufficiency of fidelity insurance to cover liabilities of warehouse operators and/or collateral management companies, inadequate standards of collateral management companies, unreliability of warehouse receipts as title document.

- On institutions and legal framework, creditors cite as major challenges lack of laws on warehouse receipts as well as inadequate scope of assets that can be used as collaterals for financing purpose, and absence of centralized collateral registries in some economies to ascertain priority of security interests. The paper explores details of the institutional and legal framework that is prevailing in APEC economies as well as reforms that have been undertaken based on data from World Bank *Doing Business* to complement findings from the creditors' survey. Several economies have already changed their regulatory framework to establish centralized collateral registries, improve access to those information, as well as expand the scope of movable assets that can be used as collateral.

- Of the various policy reforms, the paper highlights the need to improve warehousing capacity in the region through standard setting and licensing of collateral management companies, and if possible, the recognition of warehouse receipts as title documents which can be registered in collateral registries. The growth of fidelity insurance to cover losses from warehousing activity should also be supported.

- Accession to international conventions such as Choice of Court Conventions or UN Convention on the Assignment of Receivables in International Trade may also help improve the reliability of enforcement of security interests.

- The paper discussed another way of understanding supply chain finance as a specific financing vehicle to support buyer-seller supply chain whereby sellers (suppliers), especially SMEs, are able to obtain cheaper financing on the back of the creditworthiness of the buyer, usually large corporates or MNCs. This is the so-called buyer-centric supply chain finance.

- This form of financing makes heavy use of accounts receivables for financing suppliers, either through outright purchase (at a discount) or through provisions of trade credit line using account receivables from highly rated buyers as collaterals. Purchase order, supply contract agreement, invoice are likewise used as suitable collateral for supply chain financing.

- Supply chain finance helps improve buyer-seller relationship. Buyers are able to maximize its days payable outstanding (DPO) i.e., have long payment terms, even as suppliers get paid earlier at the same time through the supply chain finance (SCF) funding bank. Albeit paid at a discount, suppliers still find this financing cheaper compared to other available alternatives whereby they seek funding based only on their own credit rating. For buyers, supply chain finance helps them manage strategic supplier relationship in a win/win fashion including by enabling access to affordable financing.

- Supply chain finance has experienced rapid growth but for a wider adoption, attention should be directed to various regulatory issues that are hampering its development. The paper discussed these challenges. Initially, one of the major threat to the availability of trade and supply chain financing was the high capital cost imposed by Basel 3 regulations on all bank lending including trade financing. These regulations have been adjusted since on account of evidence of low default and loss rates of trade finance instruments. But potential challenges remain from possible regulatory arbitrage due to uneven implementation of Basel rules across economies.

- Other major challenges to trade and supply chain financing pertain to difficulties of onboarding suppliers in the supply chain finance platform due to lack of ICT infrastructure in certain markets, relationship and trust issues issues between buyer and seller, as well as stringent Know-Your-Customer (KYC) and customer due diligence (CDD) rules.

- Huge fines of financial institutions related to compliance violations have resulted to over-cautiousness by banks and termination of many correspondent banking relationships. The rupture in the global correspondent banking network is detrimental particularly to some economies, leading to their exclusion from cheap global finance flows. Presumably, the effect on SME finance access is likewise dire due to the increased cost of compliance.

- At a minimum, the paper suggests the creation of a government-authenticated centralized database in each economy where KYC-relevant company information are stored and which can be accessed by financial institutions to ease the burden of executing KYC/CDD. Any facilitating action will, hopefully, minimize financial exclusion resulting from the heavy compliance burden and overcautious stance of FIs.

- The paper also discussed regulations affecting cross-border transfer of data which can hamper the growth of information-intensive supply chain finance platforms. Cross-border data transfer regulation is the new non-tariff measure that will challenge the trade community in the foreseeable future.

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I. INTRODUCTION

The past decades have ushered a dramatic shift in the trade landscape. Not only has global trade volume exploded but the manner of production had also changed tremendously. Decline in transportation and communication cost as well as technological advances made possible the modularization of production and consequent fragmentation of production where different production stages take place in different national borders. Global supply chains emerged.

For efficient global supply chains, various services are important - from information technology services to research and development, from human capital management services to data analytics, from inventory management services to logistics - all have to be properly coordinated in an orchestra-like fashion. One important service that can be said to be an invisible glue in global supply chain operations is financial services. Problems in financial services can put global supply chain activity to a halt. For example, a study by the WTO shows that financial constraints during the global financial crisis was one of the major reasons that contributed to the plunge in trade volumes during the period[1]. There is a need, therefore, to look closely at financial services that underpin the smooth functioning of supply chains; there is a need to study supply chain financing.

But what is supply chain finance? There is no globally accepted definition of supply chain finance (yet), thus this paper takes the liberty to discuss two ways of understanding supply chain finance and the various regulatory issues impacting the availability of supply chain financing (SCF). The next section tackles one meaning of SCF as, at the risk of being tautological, 'financing supply chain', or as something equivalent to structured trade financing. Under this section, credit origination process and various factors that financial institutions consider in financing different stages of the supply chain are explained. It likewise discusses the current APEC context of SME demand for financing and regulatory environment and policy reforms that are important to improve asset based lending that can increase the availability of financing for SMEs. The third section discusses the other meaning of supply chain finance as a specific bank financing instrument that involves suppliers and buyers in a supply chain relationship. While supply chain finance takes on various forms, e.g. buyer-centric supply chain finance, supplier-centric SCF, or even multiple buyers and sellers SCF, this paper discusses in detail only the most widely used of these, i.e. the SCF that is anchored on a major buyer. The section explains how the process operates, its growing acceptance by more companies with global supply chains, and the challenges that affect its further growth and development.

[1] See Auboin and Engeman (2013)

II. UNDERSTANDING SUPPLY CHAIN FINANCE 1

1. Supply chain finance and the real economy

While physical supply chain, the end-to-end production and movement of goods, is generally understood, supply chain finance has not yet attained the status of a household term. The fact is that there is no single definition (yet) of supply chain finance. For the purpose of the paper, it took the liberty to define supply chain finance (SCF) in two ways: First, as a way of *financing an entire supply chain* starting from the factory to transport to warehouse for storage to shipping cross-border and all the way to the buyer; Second, as a specific financing instrument that has quickly gained traction starting during the global financial crisis that seek to facilitate suppliers' financing while piggybacking on the buyer's investment grade rating. This paper will deal with each of this definition in turn. This part discusses the first definition and the regulatory complexities associated with financing the supply chain. Because of the various complications and risks associated with different stages in supply chains, SCF, for the purpose of this part, can be called *'structured trade finance*[2]*'*, or a tailor-made solution designed for specific supply chains and transactions within the chain.

To illustrate, Box 1 gives a hypothetical example of financing a supply chain for a steel company that needs to make advance payments to a supplier of iron ores (its raw material) to ensure that it has sufficient raw material to meet its delivery obligations to its client (buyer). To protect its advance payment, the steel company requires an insurance from the iron ore supplier. On the other side of the transaction, the steel company exports steel to its buyers abroad on open account terms[3], which means that payment will come after a period of time, say 90 to 120 days[4].

This example illustrates the need of the steel company for financing because not only is it squeezed on the production side (due to the advance payment), it also has to provide something akin to a supplier's credit on the sale side. The financial institution (FI) solves the steel company's financing needs and allows it to focus on the company's core business (steel manufacturing) while mitigating its own risks through transactions structuring. In the example, it structures financing by providing the steel company the advance payment for the iron ore supplier in exchange for the steel company assigning [5] to the FI the insurance for non-delivery (in the form of standby L/Cs, in the diagram) as well as the supply agreement with the supplier. In addition, it cuts the steel company's waiting time for payment for its sales through the purchase of the company's account receivables (A/R). How the finance institution (FI) structured the financing deal for the steel company illustrates how supply chain finance facilitates production, international trade and movement of goods and how supply chain finance contributes to the growth of the real economy.

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[2] As noted earlier, structured trade finance had been in use for decades long before the term supply chain finance existed. But the idea of financing the supply chain faces similar issues to structured trade financing in the sense that at each step of the supply chain, varying risks exist that need to be taken into account for financing purposes and mitigated.

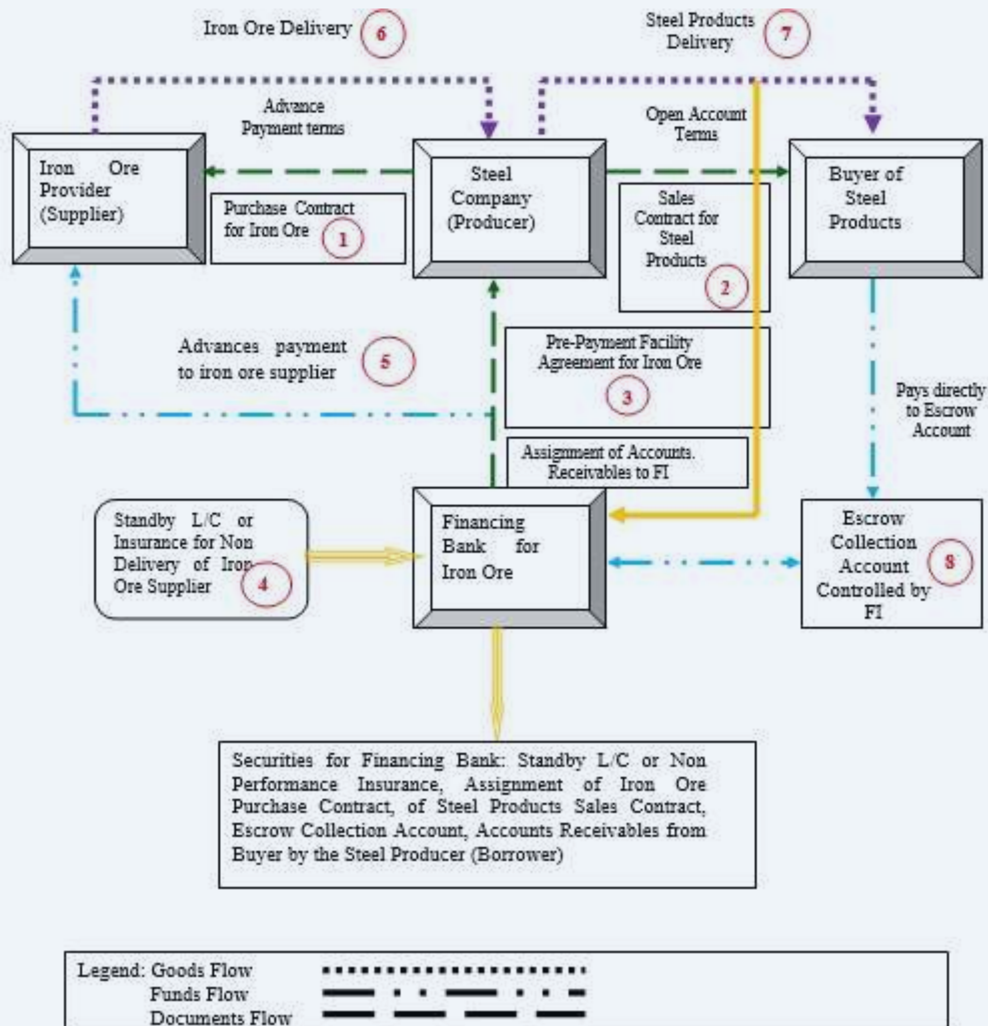
[3] Open account terms is a payment option which may or may not involve credit. Typically, though, under open account, the supplier agrees to ship the goods without immediately being paid, hence it can be considered akin to a supplier's credit. .

[4] A similar example can be conceived here for non-commodity supply chain by changing, for instance, the steel company into a medium-scale shoe manufacturer, and iron ores supplier into leather supplier.

[5] To assign a security is to transfer the ownership of a right of action with regard the security (Cenzon, 2014). In this case, in case of non-performance by the iron ore supplier, the FI can directly take appropriate action and be able to collect payment from the institution that provided the guarantee.

Box 1. Example of Supply Chain Financing as Structured Trade Finance

Steel company needs assured supply of iron ores to be able to deliver steel to buyers. Iron ore supplier wants advance payment but will in turn provide a performance guarantee. Financial institution proposed the structured solution as follows:



Source: Author and Cenzon (2014)

In the example in Box 1, the steel company is, arguably, usually a large company that is constrained by financing pressures, either from the production side, from the sale side, or from both. But similar trade transactions affecting small and medium sized companies also take place all the time. A small shoe manufacturer, for example, may need to make advance payment for leather materials, and may try to secure financing using a purchase order from a highly-rated foreign buyer of shoes. Finance institutions can structure advance payment financing using similar instruments to those in Box 1, e.g. insurance or guarantee, purchase of receivables, etc.

Of the various enterprises, the financing squeeze is, arguably, more pressing for SMEs. World Bank enterprise surveys have shown that small and medium companies consider access to finance as the biggest obstacle to their business, ahead of tax, custom and trade regulations, or political instability and corruption. Helping SMEs access financing through, among others, supply chain financing should

be and is a priority development goal by most governments because SME growth is critical for inclusive growth.

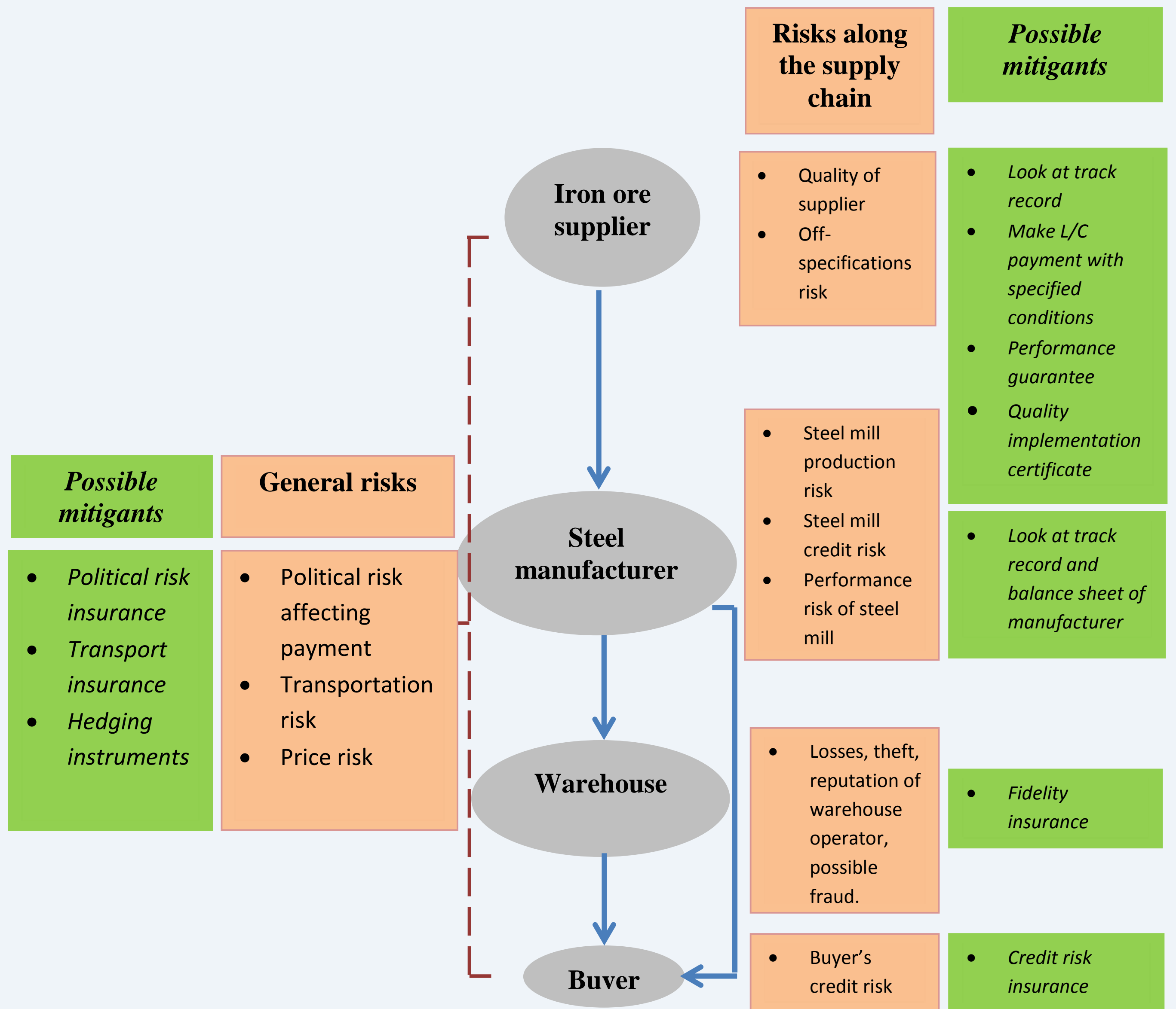
An important player in helping more SMEs participate in global trade are finance institutions; but most financial institutions are not development institutions nor long arms of the government. Rather they are in the business of making profits from providing financial services which include lending and, very importantly, risk mitigation. What are their considerations in providing supply chain finance? What type of risks do they face and what different risk mitigating mechanisms do they employ? Understanding this is key to arriving at the right regulatory and legal environment that would facilitate supply chain financing.

2. Supply Chain Finance: Creditor's Perspective

Financial institutions are no strangers to risk. For every simple loan they make, they face the risk of debtor's default. The risk in supply chain financing is multiplied several-fold because of the number of actors in the chain and the complexity of the transactions involved at each step[6]. To illustrate, Box 2 provides details of the steel transactions in Box 1. The example shows that the creditor (FI) faces risks all along the supply chain starting from the iron ore supplier to transport to the steel mill company to the warehouse up to the end buyers. The iron ore supplier might not deliver the right quantity or the right quality (performance risk); Something can go wrong in transporting the raw materials from the iron ore supplier to the steel mill (transportation risk); The steel mill can fold up (credit risk), or do not deliver according to buyer's specification (performance risk); The warehouse facility may not have the capacity to maintain the quality of the inventory; Warehouse operator or collateral management companies may cause fraud leading to inventory losses; Buyer may default or refuse to accept shipment of steel. On top of all these risks are other macroeconomic-related risks (interest rate, exchange rate fluctuations) along with political risk (e.g., coup d'etat prevented goods from leaving the port).

[6] Anything that can go wrong in the supply chain is essentially risk to the FI. For cross-border transactions, risk is automatically increased and amplified. The structure of the financing solution can minimize or eliminate most of the anticipated risks in the supply chain.

Box 2. Risk Spectrum in Supply Chain Financing



Source: Author and Cenzon (2014).

To minimize potential losses from supply chain financing, FIs use various risk mitigation techniques and instruments. They check for credit risk by examining balance sheets as well as historical export performance. They assess the quality of the product if they satisfy market-grade quality, especially in the case of exchange-traded commodities. They use various types of insurance to cover different risks (buyer credit risk, fidelity risk, transport risk, etc.) and guarantees and other credit enhancements, both to protect the FI's own lent money and to be able to obtain approval within the FI's credit committee structure. If the risks are too high and hard to mitigate because of absence of financial instruments or the proper laws and institutions that can assuage such risks, then FIs can withdraw from financing certain type of transactions from certain types of creditors from certain types of economies. Usually this means the rejected transactions are those from SMEs and developing economies. One result can be financial exclusion, particularly of many potential borrowers from emerging economies.

Besides financial exclusion, another important thing to note is that, usually, the higher the risk the FI takes, the higher the cost of financing to the borrower. This is why in economies that have more developed supply chain physical and financial infrastructure, cost of financing tend to be lower and more inclusive of SMEs. Conversely, in economies where credit infrastructures are weak, for example inadequate warehousing and collateral management capacity, or where asset based lending is not widely practiced, financing will mostly be based on the financial strength (i.e., balance sheet) of the borrower, thus excluding from financing many other companies (such as many SMEs) with weak balance sheets but with marketable goods and high growth potential. Or, if they provide financing through asset based lending for example, the cost is nevertheless much higher than otherwise can be obtained in other economies with more 'ideal' institutional infrastructure (i.e., proper legal and regulatory framework).

Box 3 summarizes the basic thought flow of FIs when they embark on a supply chain financing or structured trade finance. Since trade finance transactions are typically short-term and self-liquidating, they ask where the source of repayment will come from and how to ring fence the cash flows so that no other third party claimant (e.g. other creditors) would be able to break it open and divert the cash. Possibility of risk shifting through securing of guarantees or insurance or hedge, and very importantly, whether documents of title could be obtained and easily enforced, are major considerations. In the creditors' considerations of whether to proceed with a structured financing, legal and regulatory issues play a very important role. Regulatory barriers like restrictions on escrow accounts, the inability to execute a proper pledge, the uncertainty of enforcement of a security interest, the ambiguity of title to the goods, and other similar barriers that affect the security interest are either obstacles to financing or factors that increase the cost of financing.

Box 3. Basic Structuring Techniques

The creation of structured finance depends on a broad spectrum of factors.

i. Identification of the source of repayment since the structure is self-liquidating.
   - Are the goods pre-sold (i.e. there is a sure source of repayment)? Are the payment proceeds coming into a dedicated collection or escrow account? Are the payments going to an overseas account in case the borrower happens to be in a high-risk economy?

ii. Creation of a flow chart from the time the funds are disbursed, to the time the repayment is received.
   - Which part of the chain has the highest risk? Which risk could be mitigated, which risks could be absorbed? Could these risks be transferred to other parties e.g. insurer, or hedger or warehouse operator?

iii. What is the rationale of the financing request?
   - Is it disguised working capital or is it for a specific financing need e.g. procurement of raw materials.

iv. What are the transportation risks involved?
   - Which part of the supply chain could be secured in terms of controlling the goods? What enforceable security or documents of title could be obtained during the transportation flow from the point of origin to the point of discharge. A flow chart may be needed to trace the documents flow, the goods flow and the payment flow.

v. If the amount is significant, can this be shared to other financiers by means of club deals or syndications? How much over collateralization is needed if the commodity has an inherent price risk (Risk shifting)?

vi. Other considerations (especially if inventories are the collateral)

- Are the goods easily convertible into cash? Are they exportable in the event that domestic buyer refuse to honour the purchase contract and can export license be easily obtained?
- Can they be protected from price erosion through hedging?
- If they are insured, where is the place to make a claim? Offshore or onshore

The answers to the above questions may determine whether it is worthwhile to proceed with the structure, revise the structure and close the deal.

Source: Cenzon (2014)

3. Legal and Regulatory Issues: the APEC Context

What is clear in the above discussion is that the legal and regulatory environment can facilitate financing, especially SME financing, or it can create obstacles. Box 3 poses a few critical questions that financial institutions need to answer favorably, else they decide not to proceed with the transaction or to proceed with even more caution by adding more credit enhancements to protect the money they have lent out. This, in turn, translates to higher financing cost. Underlying these considerations is the fact that, unlike traditional corporate lending for example, the balance sheet of the trade financing proponent is not the major consideration in the granting of financing, but rather the traded goods[7]. Hence the emphasis is on the enforceability of the security interest or the possibility to seize and resell the goods with relative ease and rapidity in the event of default. Understanding the creditors' perspective provides the hint that in order to help companies, especially SMEs, improve access to financing, regulatory reforms that help facilitate credit, especially those related to improving asset based lending, are imperative. This section will survey these issues. However, to better appreciate the context for the need for regulatory reforms, a brief overview of the demand side condition of financing in the APEC region is first discussed.

a. Business Demand for Financing

i. Source and Cost of Finance

Using the latest available World Bank Enterprise Survey, Figure 1 shows the source of working capital financing for firms in APEC[8]. On average, firms report that 17% of working capital needs are sourced from banks. Suppliers' credit or loans provided by suppliers to its buyers through delayed payment schemes, for example, is another source for working capital, filling up to 10% of APEC firms' financing requirement. The largest portion is funded through other sources which could mean either through internal funds, from finance institutions other than banks, or particularly for SMEs, from informal funding sources.

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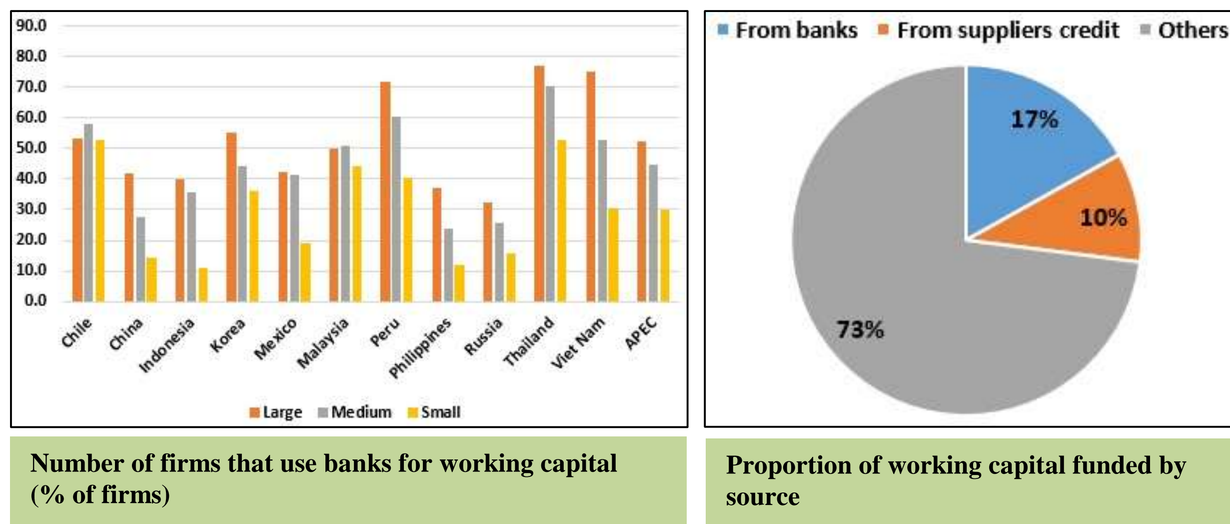
[7] This does not mean that balance sheet quality is no longer important. It remains vital but is supplemented by the traded goods as collateral. The importance of the traded goods in the credit and risk assessment varies: soft commodities and perishable exports involve a higher level of risk than other categories and may involve specialist structures.

[8] In this section and when referring to World Bank Enterprise Survey, APEC means only the 11 economies that are included in the World Bank survey, namely: Chile; China; Indonesia; Korea; Malaysia; Mexico; Peru; Philippines; Russia; Thailand; and Viet Nam.

Figure 1. Source of Working Capital Financing



Number of firms that use banks for working capital (% of firms)

Proportion of working capital funded by source

Source: APEC-PSU computations based on World Bank Enterprise Survey

On average, 38% of firms in APEC use banks for working capital financing, but the usage varies across size of firms. Thirty percent of small firms, those with less than 20 employees, use banks for working capital compared to 52% of large firms (with more than 100 employees). The proportion for medium-sized firms is somewhere in between the two at 45%. In Peru; Thailand; and Viet Nam, at least 70% of large firms use the banking sector for working capital loans. If firms are divided into exporters[9] and non-exporters, 51% of exporters use banks for working capital compared to only 37% of non-exporters.

Actual cost of financing is usually hard to find but the value of collateral required for a loan is a good proxy for this because it indicates the risk attached to lending in different economies. A high value of collateral over loan value can represent significant 'overcollateralization', presumably to cover various risks accompanying the loan, hence can be an indicator for cost[10]. Figure 2 shows that the collateral-to-loan value is higher in APEC compared to the OECD average. But for small firms in some economies like Chile; Mexico; Peru; Philippines; and Viet Nam, the value of collateral required range from 212% to 346% of the amount of the loan. Such costly requirement could be one reason why small firms have difficulty accessing financing. Except in Peru and Philippines, the amount of required collateral for loans of large firms average about 161% and is close to the OECD average of 141% for all firms. Similarly, exporters enjoy cheaper cost of financing relative to domestic firms. Exporters use collaterals that are 142% over the loan value on average while non-exporters need 165% collateral value over its loans. Compared to OECD, APEC cost of borrowing based on the required collateral for loans is higher by 15%.

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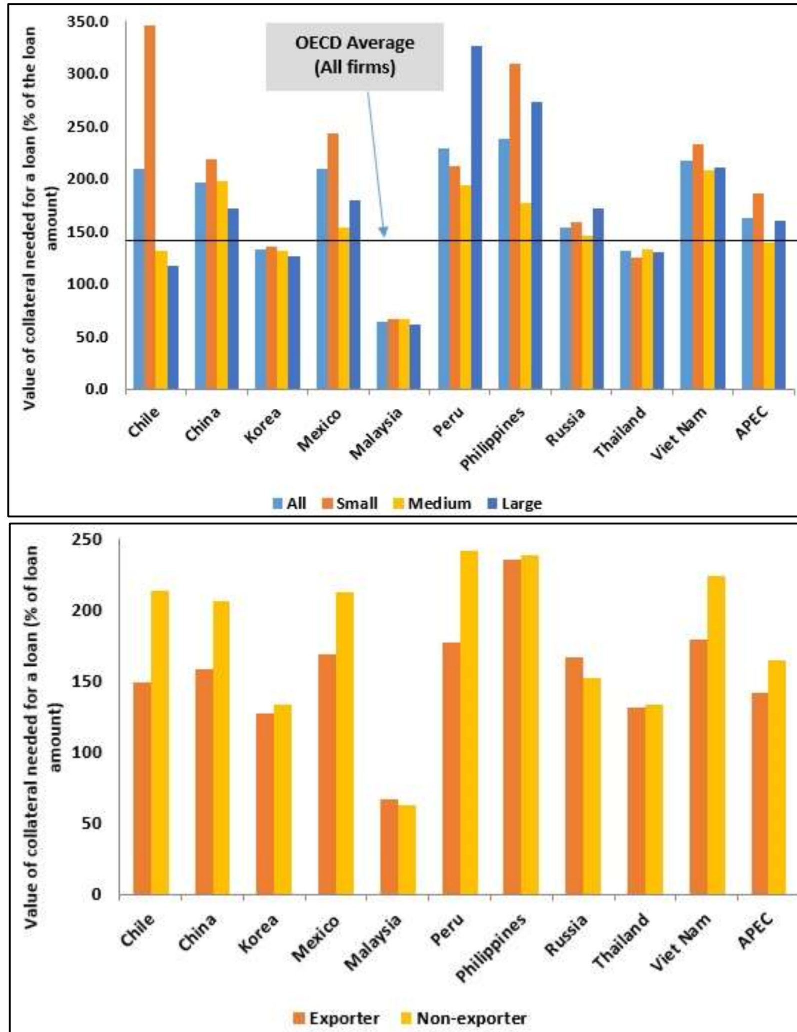
[9] Exporters are those with at least 10% of sales going to the export market. This information on exporters is not shown in the graph.

[10] This proxy indicator is arguably limited because, among other reasons, the type of collateral offered for a loan will also influence the 'lending rate'. For example, for accounts receivables, the advance rate can be 60-90% of the receivable value; for inventory, around 30-60%; for equipment, even lower. Still, it is reasonable to suggest that the more risky the deal or the borrower is, the higher the collateral value that may be required.

Figure 2. Collateral-to-loan Ratio

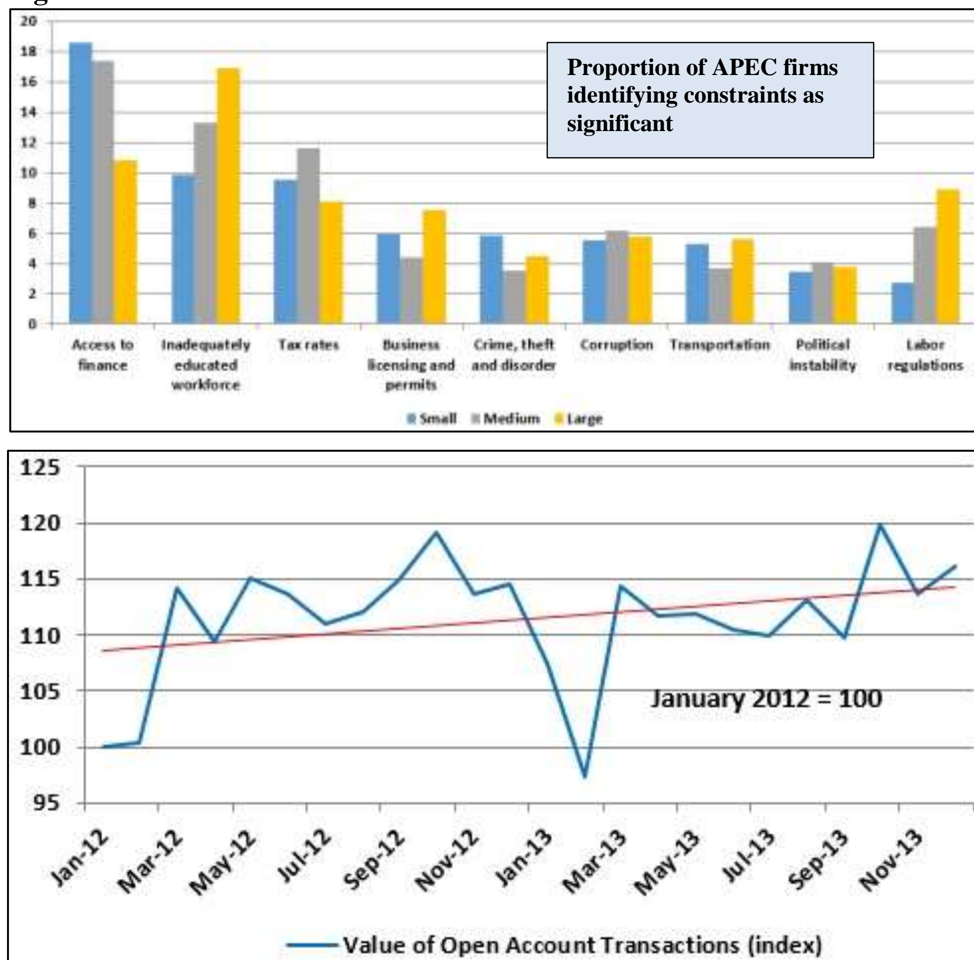


Source: APEC-PSU computation based on World Bank Enterprise Survey (latest available year for each economy).

ii. Increasing Use of Open Account Trade Financing

Among many issues that provide obstacles to business, the biggest proportion of firms identify access to finance as a very significant constraint to growth (Figure 3). Its number, especially small and medium enterprises, far exceeds those that identify other issues as significant business constraint such as skills of labor force, high tax rates, regulatory bottlenecks coming from licensing and issuing of permits, transportation cost and even political instability. Improving access to finance is thus a major concern for SMEs. In contrast, large companies in APEC pay more attention to the availability of skilled labor force and labor regulations for their business. Yet, even large firms consider access to finance as an important constraint, just not the top issue for them.

Figure 3. Obstacles to Business Growth



Source: APEC-PSU computations based on World Bank Enterprise Survey (latest available year for each economy), SWIFT trade data messages and IMF, Direction of Trade Statistics.

Compounding the problem of SME financing is the rise in open account trade (Figure 3)[11]. In trade finance parlance, open account trade is akin to a suppliers credit[12] whereby exporters ship goods abroad and wait for future payment from buyers. Unlike letters of credit (L/Cs) where the payment and the receiving of goods have to adhere to stipulated conditions thereby protecting both buyers and sellers, the payment risk from open account transactions is lopsidedly high for exporters. Usually, too, the payment terms could also be for a few months, e.g. 60, 90 or 120 days, thus making open account akin to suppliers providing trade credit to buyers. Historically used by firms that have had long, established relationships but increasingly common in the context of new trading relationships, even when they involve one or more high-risk markets, open account is useful because it is cheaper and simpler, but may pose problems for firms that are finance-starved. SMEs are, typically, among this group of firms.

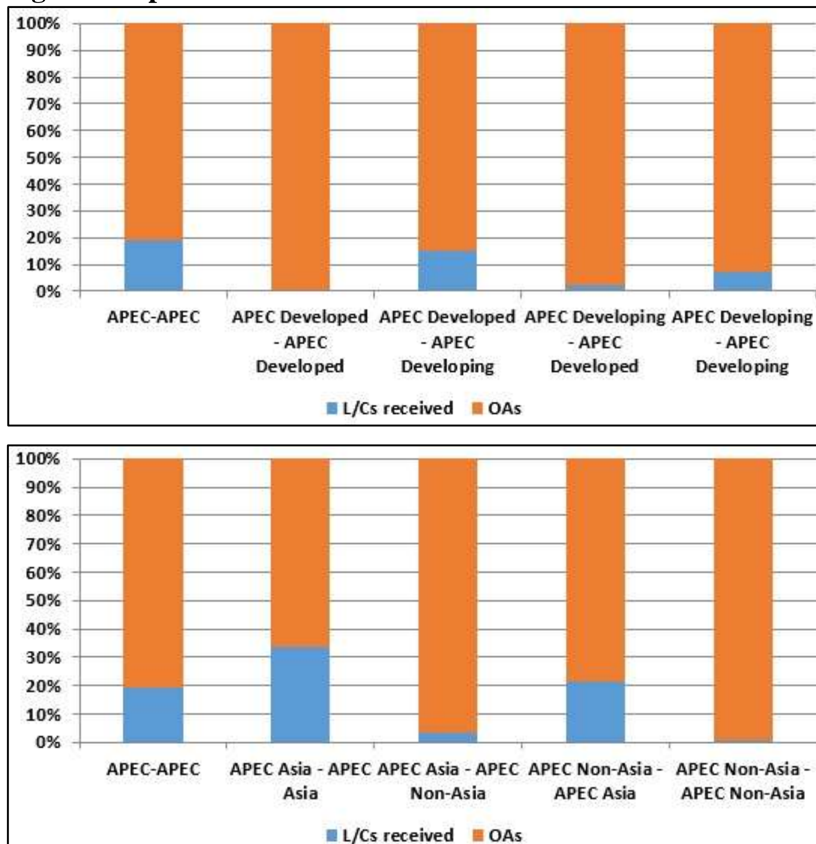
This issue takes on more relevance considering that many governments seek to integrate more domestic firms into global value chains. Global value chains, because of established relationships within the group, are likely to trade using open account. This means that domestic firms, be they large, medium or small, have to have sufficient finance access to cushion the difficulty arising from longer payment terms to continue producing subsequent batches of export shipment. Asia or the group of developing economies are heavy users of open account trade (see Figure 4), hence the issue of open account trade financing takes on greater resonance for them. Roughly 20% of intra-APEC trade are financed through letters of credit while 80% are estimated to be financed through other ways, which

[11] The trend in open account transactions is a rough estimate using the difference between values of global trade data and the value of SWIFT's trade messages using L/Cs.

[12] See footnote 3.

we assume to be all via open account[13]. When the exporter is located in Asia and the buyer is outside Asia, open account transactions are larger than when it is the other way around, i.e. exporter is non-Asia. Similarly, exports from developing economy going to developed economy destination have a relatively greater share of open account transactions than the other way around. This perhaps reflects the level of trust of developing economy exporter that they will receive the payment at some point, compared to payment for transactions going from developed to developing economies. Likewise, this can also reflect the poor bargaining position of developing economy exporters vis-à-vis their developed economy counterparts.

Figure 4. Open Account Trade in APEC



Source: PSU computation based on SWIFT trade data messages and IMF, Direction of Trade Statistics.

b. Issues on Supplying Credit

Can banks do more to lend to SMEs? What conditions would make them increase lending to SMEs? Why do banks reject trade financing applications and what can be done to facilitate finance?

i. Survey of financial institutions

To understand the perspective of the financial institutions, we conducted a key informant survey and interviews of banks that operate within the APEC region[14]. The survey itself is only indicative because of the few number of respondents[15], but the insights are, nevertheless, in line with other survey results, particularly those carried out by the Asian Development Bank (ADB) and the International Chamber of Commerce (ICC).

Figure 5 shows the responses to the question on why banks reject certain trade financing proposals. The number in the graph corresponds to the average ratings given by respondents when asked to give a rating between 1 and 5 about the significance of the various possible reasons for rejecting a trade financing proposal, with 5 being the most significant reason why loans get rejected and 1 the least significant. The result shows that concern over credit risk received the highest average rating for

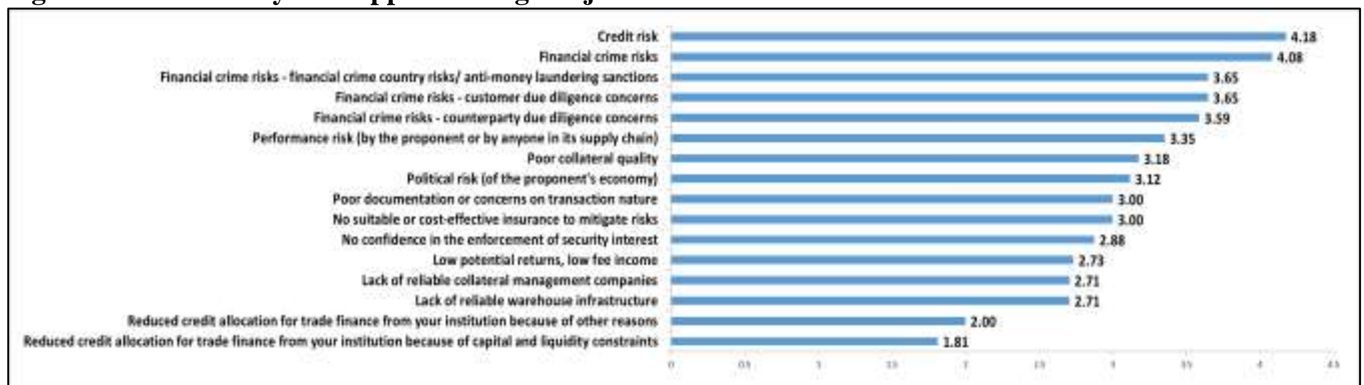
[13] Besides open account, another way of financing is through cash-in-advance which is like the polar opposite of open account transactions. In cash-in-advance, the buyer advances the payment to suppliers. We assume that this type of transaction is relatively small compared to either L/Cs or open account.

[14] With the cooperation of the member institutions of the Asia Pacific Finance Forum and ASEAN Bankers Association, PSU sent out questionnaires to banks that operate in APEC member economies and conducted several phone interviews with global and regional banks that are active in trade financing.

[15] In total, only 20 banks responded. These are based within ASEAN economies; Hong Kong, China; and USA. Additionally, several interviews were carried out with six global and regional banks.

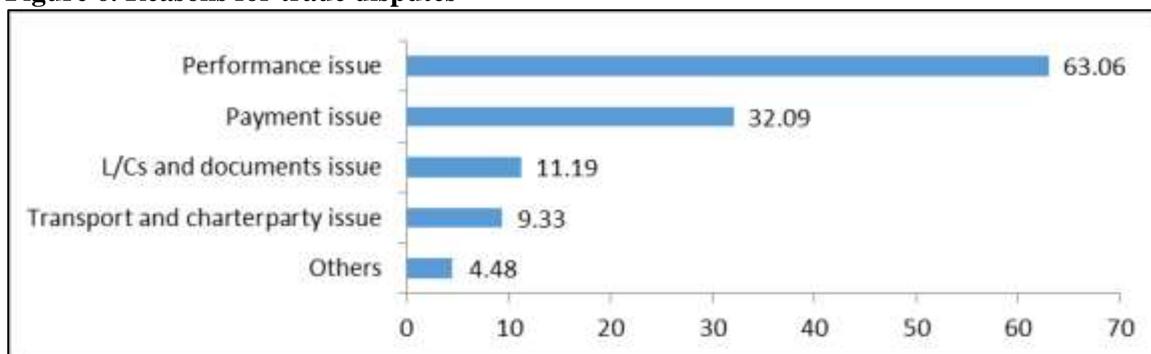
significance but financial crime risks came as a close second. Related to financial risk are customer due diligence (CDD) concerns, counterparty due diligence, concern over sanction economies, and anti-money laundering. Poor collateral quality by the loan proponent and absence of cost-effective insurance to mitigate risks, performance risk of anyone in the proponent's value chain, political risk, poor documentation and concern over nature of the transaction are likewise important reasons for loan application rejection. The concern over financial crime risk will be discussed more at length in the next section but it is important to note the significant concern of banks with respect to customer due diligence and other compliance issues. Credit risk and poor collateral quality as reasons for rejection are not particularly surprising but performance risk as a significant consideration is an interesting result, especially in light of the analysis of UNCITRAL[16] cases which shows non-performance as one of the top reasons for most of the cases that are decided in international trade disputes (see Figure 6)[17].

Figure 5. Reasons why loan applications get rejected



Source: APEC-PSU – Asia Pacific Finance Forum-ASEAN Bankers Association Survey (henceforward, PSU-APFF-ABA Survey)

Figure 6. Reasons for trade disputes

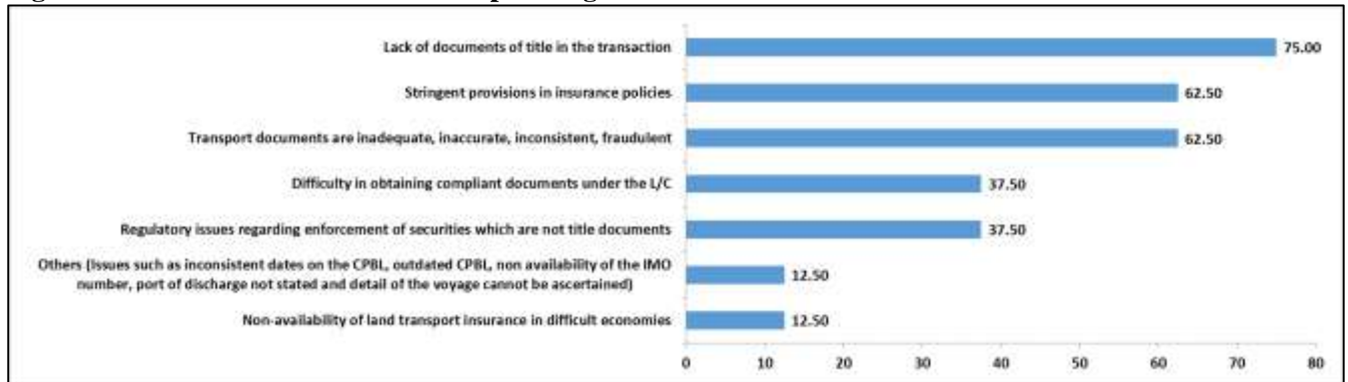


Note: Percentages do not sum to 100% because each UNCITRAL case may involve multiple categories of issues and in fact may involve several issues within the same category.
Source: PSU compilation and analysis based on UNCITRAL database

[16] United Nations Commission on International Trade Law.
[17] Performance issues include non-delivery of goods, late delivery of goods, non-conformity of goods. Payment issues are related to delay, partial or non-payment for goods and/or services. L/Cs and documents issues generally concern non-compliant L/C documents as well as lack or discrepancies of information in documents and unwillingness or inability to amend the issues of non-compliance on the export side, and unwillingness to waive such discrepancies on the import side. Transport and charterparty issues are usually disputes revolving around the charterparty agreements as well as who should be responsible for goods damaged or lost during shipment. 'Others' include disagreement in pricing mechanism, repudiation of warehouse lease, ownership claim to unpaid goods and post-purchase issues.

Asked for problems encountered in transporting products from factory or farm to warehouse or port before customs clearance, 75% of the respondents cited lack of document of title in the transaction, while more than 60% mentioned stringent provisions in insurance policies or inadequate, inaccurate, inconsistent or fraudulent transport documents. It is interesting to note here that since banks are primarily concerned with security interest, as mentioned previously, most of them indicated lack of document title as the problem encountered by most (see Figure 7).

Figure 7. Problems related to the transport of goods



Note: CPBL = Charterparty bill of lading; IMO = International Maritime Organization ship identification number
Source: PSU-APFF-ABA Survey.

With respect to warehousing and storage, the most number of respondents mentioned low standards among collateral management companies (Figure 8). It is tied for number one reason with insufficient fidelity insurance[18] of warehouse operator. Unreliability of warehouse receipts as well as the fact that they are not documents of title in some economies make it difficult for creditors to defend their lien[19] on the stored product unless the warehouse receipts are accompanied by a pledge. This, too, was cited by many. Surveyed banks also mention the problem of few warehousing facilities, absence of harmonized legal framework across economies when dealing with collateral management companies, and lack of clear government regulations on standards and grading of commodities. Overall, warehousing or collateral management is still a nascent industry in the region which means large scope for growth.

Figure 8. Challenges faced from warehousing

Source: PSU-APFF-ABA Survey.

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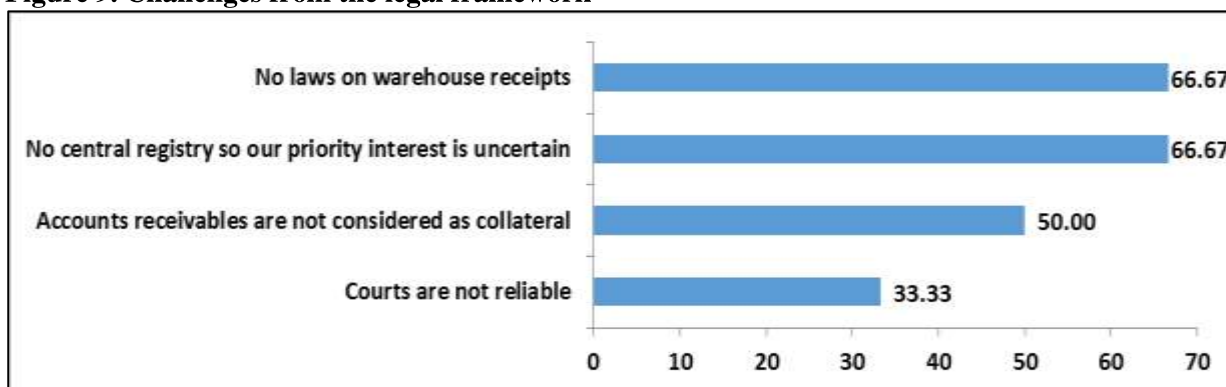
[18] An agreement whereby, for a designated sum of money, one party agrees to guarantee the loyalty and honesty of an agent, officer, or employee of an employer by promising to compensate the employer for losses incurred as a result of the disloyalty or dishonesty of such individuals (West's Encyclopedia of American Law, edition 2)

[19] Lien is a type of security right given by owner of goods to a creditor to secure debt payment or obligation performance.

On the legal and regulatory framework, most of the firms cited lack of central registry for movable collateral which makes their lien priority[20] uncertain (Figure 9). Another mostly cited is the lack of laws on warehouse receipts i.e. in many jurisdictions, warehouse receipts are not documents of title. The lack of legal framework that allows a wide scope for assets to be used as collateral is another cited challenge. In some economies, work is only beginning on using accounts receivables, inventories and invoices as collaterals for obtaining loans.

Figure 9. Challenges from the legal framework



Source: PSU-APFF-ABA Survey.

ii. Doing Business Survey

The PSU-APFF-ABA survey confirms similar results found by multilateral institutions on secured transactions. For example, the World Bank's *Doing Business* survey report shows overall conditions of secured transactions environment based on an assessment of various elements that are considered 'ideal' or best practice[21]. Figure 10 shows significant variations in the legal and regulatory environment among APEC economies, with some having perfect 10s[22], while others significantly lag behind[23].

When compared relative to the frontier economy, Figure 11 shows that APEC's average of 75 index points is 25 points away from the frontier, nine out of the 21 APEC economies are below the APEC average, while others like Australia; Hong Kong, China; Malaysia; New Zealand; Singapore; and USA are either at the frontier or very proximate to it. The length of the bar indicates the movement towards the frontier from 2008 to 2014 surveys and reflects the favorable regulatory and legal reform that took place in various economies during the period. The positive note is that Figure 11 shows that there are reforms taking place all across APEC even though, judging from the length of the bars, the reforms in some economies are like horse leaps while in others are like baby steps.

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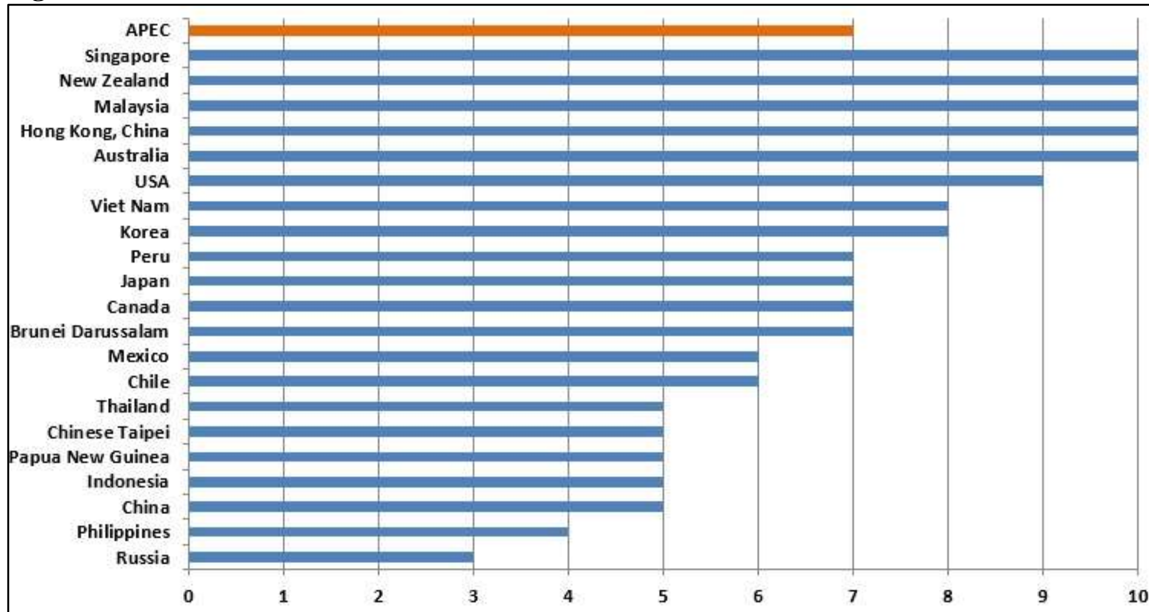
[20] Lien priority essentially specifies the order in which creditors get paid in case of bankruptcy, foreclosure, etc. A lien is said to have a priority if it gets paid first before the other lien.

[21] See Annex for the set of questions on which the assessment is based.

[22] The index corresponds to the positive answers to 10 questions that the Doing Business Survey methodology deemed to be major elements of a good secured transactions environment.

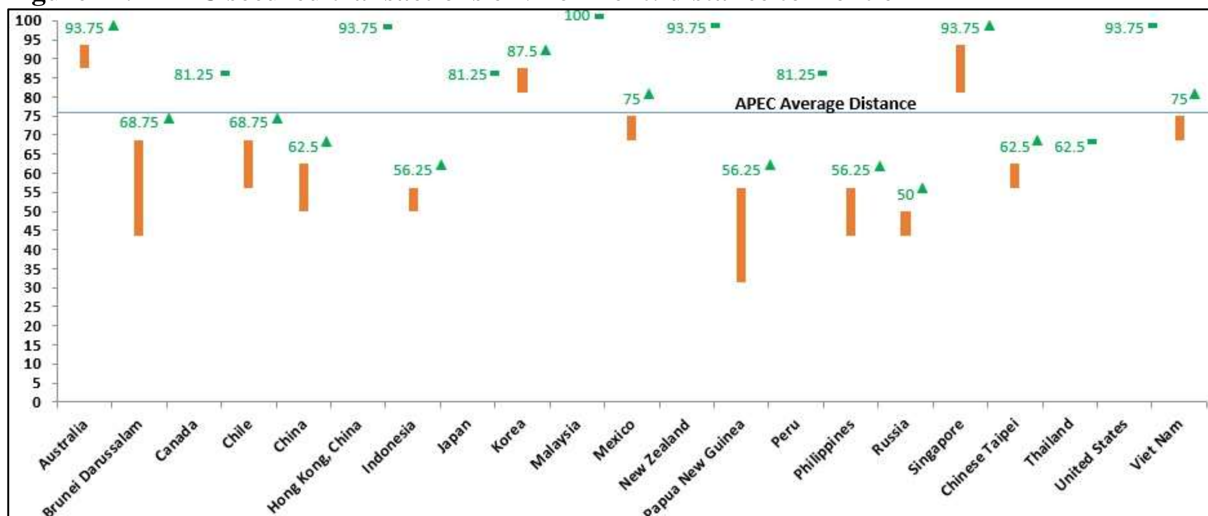
[23] Curiously, the USA has strong regulatory environment but the survey has one negative assessment for the following question: "Is a collateral registry in operation, that is unified geographically and by asset type, with an electronic database indexed by debtor's names?" This is why it has only 9 out of 10 points. The assessment of 'lack of a centralized collateral registry' may be debatable considering that the USA does have a centralized registry per state although not for the entire economy. Still, a centralized registry exists; and considering the size of USA, the state-by-state registry might in fact be more efficient than one that is at the federal level.

Figure 10. Secured transactions environment in APEC



Source: PSU calculation from World Bank Doing Business

Figure 11. APEC secured transactions environment: distance to frontier



Source: PSU calculation from World Bank Doing Business

➢ **Details of secured transactions environment**

The way the Doing Business Survey index is done is based on the principles for modern secured transactions systems where security interest can be cheaply created, perfected, and enforced. It looks at the laws governing credit transactions as well as details within it including: a) scope of collaterals, whether they are broad or limited to fixed assets and a few movable assets, e.g. automobiles; b) coverage of transactions, whether they cover secured loans, retention of title, leasing, assignment of receivables, etc.; c) whether it provides clear priority in case of competing claims. The Survey also checks for the availability of a unified and centralized collateral registry, and mode and cost of access to the information, priority of secured creditors accorded by the registry, as well as ease in enforcement. All these form part of the pillars of a modern and secured system (see Box 4).

Box 4. Pillars of a modern secured transaction environment

A secured transactions environment is where security interests can be cheaply created, perfected, and enforced. The following are the baseline economic requirements for such a regime:

- *Creation that is cheap, simple, and comprehensive.* Law should permit inexpensive creation of a security interest against all property by any person for any transaction. The scope of possible collateral within the law should include both fixed and movable assets, tangible and intangible.
- *Publicity/registration that is public, inexpensive to file, easy to search.* For example, the use of unified and centralized collateral registry as a means of making a claim against movable property. Law should provide publicity of the priority by public filing system.
- *Priority.* Rules that determine the relative rights among conflicting claims against the same property.
- *Enforcement that is fast and cheap.* Law provides fast and inexpensive enforcement; Provides possibility of out-of-court settlement; Permits recovery and sale even at low costs relative to the value of the collateral.

Source: ADB (2000), Alvarez de la Campa (2011)

What follows next is a brief assessment of the secured transactions environment in APEC based on the World Bank *Doing Business* Survey.

- **Scope of Secured Transactions**

Table 1 shows all APEC economies allow for a broad pool of assets including movable ones for use as collateral while allowing debtors to maintain possession of the asset. This means that if movable assets consist of inventory or raw materials or equipment, the debtor is still able to make use of the mortgaged property to operate his business. This is usually facilitated through a generic description of the mortgaged assets so that the creditors need only get equivalent assets in case of default.[24] However, eight economies in APEC do not allow generic description of security interest. In economies like China, specific description of all mortgaged and pledged property is required, though it appears that the law leaves room for dispute[25]on whether only specific description is possible. In Indonesia too, the Fidusia Law permits general identification but prior rules about enforcement and registration seems to require specificity[26].

On the use of floating charges, 15 economies allow floating charges[27] while six do not allow it. But in China and Indonesia, its use is either vague in the law, or allowed but conflicts with other provisions

[24] For example, the creditor need not get the exact same mortgaged steel but similar grade quality and amount of steel.
[25] ADB (2000), Table V-1, p. 26
[26] Ibid.
[27] Floating charge is a security interest over a fund of changing assets of a company, which 'floats' or 'hovers' until the point at which it 'crystallizes' into a *fixed charge*, at which point the charge attaches to specific assets of the company. It is a fixed security device under which a creditor takes a security interest in a specific kind or kinds of present and future movable property of the debtor or in all of the debtor's present and future movable property.

in other parts of the law thus leaving the use of floating charges unclear. In Thailand, floating charges are not allowed; but the pledge of the warrant given by a public warehouseman for inventory stored there is close to being a floating interest[28]. Similarly, nine out of 21 APEC economies prohibit using future property as collateral, although in the case of China, for example, this is allowed in some cases. In Thailand, the debtor must own the existing property when it creates the security interest[29].

Table 1. Overall Secured Transactions Scope in APEC Economies

Economy	Use movable assets as collateral while keeping possession	Generic description of collateral accepted to gain non possessory security right	Mechanism to secure all assets of a company (charge, etc.)	Extension of security rights to future assets, products and proceeds or replacement of original assets
Australia	Y	Y	Y	Y
Brunei Darussalam	Y	Y	Y	Y
Canada	Y	Y	Y	Y
Chile	Y	N	Y	Y
China	Y	N	Y	N
Hong Kong, China	Y	Y	Y	Y
Indonesia	Y	Y	N	Y
Japan	Y	Y	Y	N
Korea	Y	N	N	Y
Malaysia	Y	Y	Y	Y
Mexico	Y	N	Y	N
New Zealand	Y	Y	Y	Y
Papua New Guinea	Y	Y	Y	N
Peru	Y	Y	Y	Y
Philippines	Y	N	N	N
Russia	Y	N	N	N
Singapore	Y	Y	Y	Y
Chinese Taipei	Y	N	N	N
Thailand	Y	N	N	N
USA	Y	Y	Y	Y
Viet Nam	Y	Y	Y	N

Source: World Bank Doing Business 2014

[28] See ADB (2000), Table V-2, p. 27. Under China's Property Law passed in 2007, however, floating charge is allowed and practiced in China though there may be some issues in the wording of the Law that foreign lawyers may not always understand (source: email correspondence with one interview respondent)
[29] ADB (2000), Table V-3, p. 28.

➢ Collateral registries

Table 2 indicates whether a unified, centralized and electronically searchable collateral registry is available. Ten economies do not have centralized collateral registries. Those that do also vary in some of the features. For example, Australia and Hong Kong, China do not have simple notice based system for registering security interest while the others seem to allow it. On online system for registration and searches, some economies have no restrictions on who can do registration and searches while others restrict access. Moreover, while these economies have unified, centralized collateral registry for all types of assets, China has different registry for different types of mortgages. With regard to cost of registering, the APEC economies that have collateral registry have flat and reasonable fees[30]. On restrictions on who can file, five out of the nine restrict who can file in the registry; in some cases, only notary public can make the registration on behalf of the secured creditor.

➢ Priority and enforcement

Priority is created at different times. In China and Indonesia, for security that need not be registered, the timing of priority is the time when interest is created (e.g. signing of the agreement). But for properties that require registration, priority is established upon registration of the security interest. In fact, for some properties, registration is required not only to establish priority but also to create the security interest in the first place; without registration, the creditor becomes an unsecured one. Table 3 shows that except for 8 economies, APEC members provide priority to secured creditors over tax claims and wage claims outside of bankruptcy, but during bankruptcy procedures, ten economies give no such priority to secured lenders over the claims on tax and wages. During court-supervised reorganization procedures, 15 APEC economies exempt secured lenders from an automatic stay of all creditors; or else, set time limits on how long the automatic stay can apply to secured creditors. Out-of-court settlement is allowed in most APEC jurisdictions except for five economies (Chile; China; Indonesia; Papua New Guinea; and Thailand).

Table 2. Presence of Collateral Registry and Its Conformity to Selected Best Practices

Economy	Unified, centralized, electronic collateral registry for all type of assets	Conformity to following best practices						
		Notice registration system	Online system for registrations/ searches	Single registry for all type of assets	Flat and reasonable fees	No restrictions to file	Debtors are legal/ natural persons	No liability of the registrar
Australia	Y	N	Y	Y	Y	Y	N	Y
Brunei Darussalam	Y	-	-	-	-	-	-	-
Canada[1/]	N	Y	Y	Y	Y	N	Y	Y
Chile	Y	-	-	-	-	-	-	-
China	N	Y	Y	N	Y	N	Y	N
Hong Kong, China	Y	N	N	Y	Y	N	N	Y
Indonesia[2/]	N	-	-	-	-	-	-	-
Japan	N	-	-	-	-	-	-	-
Korea	Y	-	-	-	-	-	-	-
Malaysia	Y	Y	N	Y	Y	Y	N	N
Mexico	Y	-	-	-	-	-	-	-

[30] Except for Texas in the USA in the Table.

New Zealand	Y	Y	Y	Y	Y	Y	Y	Y
Papua New Guinea	N	-	-	-	-	-	-	-
Peru	Y	-	-	-	-	-	-	-
Philippines	N	-	-	-	-	-	-	-
Russia	N	-	-	-	-	-	-	-
Singapore	Y	Y	Y	Y	Y	N	N	Y
Chinese Taipei	N	-	-	-	-	-	-	-
Thailand	N	-	-	-	-	-	-	-
USA[3/]	N	Y	Y	Y	N	Y	Y	Y
Viet Nam	Y	-	-	-	-	-	-	-

1/ Canada data on conformity to best practices is only based on information from British Columbia and Nova Scotia.
2/ Indonesia has a central Registry since early 2014 which may not yet be captured in the current *Doing Business* issue.
3/ USA data on conformity to best practices is only based on information from Texas.
- : Data not available.
Source: World Bank Doing Business 2014 and Alvarez de la Campa, et.al. (2012)

Table 3. Priority of Secured Creditors and Enforcement in APEC Economies

Economy	Priority of secured creditors[2/]		Enforcement	
	Outside bankruptcy	During bankruptcy	Secured creditors are exempted from automatic stay[1/]	Out of court enforcement allowed
Australia	Y	Y	Y	Y
Brunei Darussalam	N	N	N	Y
Canada	N	N	Y	Y
Chile	N	N	Y	N
China	Y	Y	N	N
Hong Kong, China	Y	Y	Y	Y
Indonesia	N	N	Y	N
Japan	Y	N	Y	Y
Korea	Y	Y	Y	Y
Malaysia	Y	Y	Y	Y
Mexico	N	N	Y	Y
New Zealand	Y	Y	Y	Y
Papua New Guinea	N	N	Y	N
Peru	N	N	N	Y
Philippines	Y	N	Y	Y
Russia	N	N	N	Y
Singapore	Y	Y	Y	Y
Chinese Taipei	Y	Y	N	Y
Thailand	Y	Y	Y	N
USA	Y	Y	Y	Y
Viet Nam	Y	Y	N	Y

1/Secured creditors are either not subject to an automatic stay on enforcement when a debtor enters a court-supervised reorganization procedure, or the law provides secured creditors with grounds for relief from an automatic stay or/and sets a time limit to it.
2/ Priority (before tax claims and employee wages)
Source: World Bank Doing Business 2014

Resolving insolvency is another important consideration when looking at the secured transactions environment[31]. In APEC, average number of years to close the business is 2 years, average cost (as percent of the estate) for the bankruptcy proceedings is 12% and average recovery rate is 57 cents to a dollar. In the region can be found the top ranked economies like Japan which takes less than a year to close a business at a cheap cost of 4% of the value of the estate and where recovery rate exceeds 90 cents to a dollar (Table 4). On the other end of the spectrum, Viet Nam, despite its modern secured transactions law, takes 5 years to close a business with a recovery rate of only 16 cents to a dollar.

Table 4. Resolving insolvency

	Rank	Time (years)	Cost (% of estate)	Recovery rate (cents on the dollar)
Australia	18	1	8	81.3
Brunei Darussalam	48	2.5	4	47.2
Canada	9	0.8	7	87.3
Chile	102	3.2	15	29.1
China	78	1.7	22	36.0
Chinese Taipei	16	1.9	4	81.8
Hong Kong, China	19	1.1	9	81.2
Indonesia	144	4.5	18	17.9
Japan	1	0.6	4	92.8
Korea	15	1.5	4	82.3
Malaysia	42	1.5	10	48.9
Mexico	26	1.8	18	67.6
New Zealand	12	1.3	4	83.3
Papua New Guinea	128	3	23	23.5
Peru	110	3.1	7	27.7
Philippines	100	2.7	22	29.9
Russia	55	2	9	42.8
Singapore	4	0.8	3	89.4
Thailand	58	2.7	36	42.2
USA	17	1.5	7	81.5
Viet Nam	149	5	15	16.2

Note: Time refers to years it takes to close a business.
Source: World Bank Doing Business 2014

4. Policy Reforms

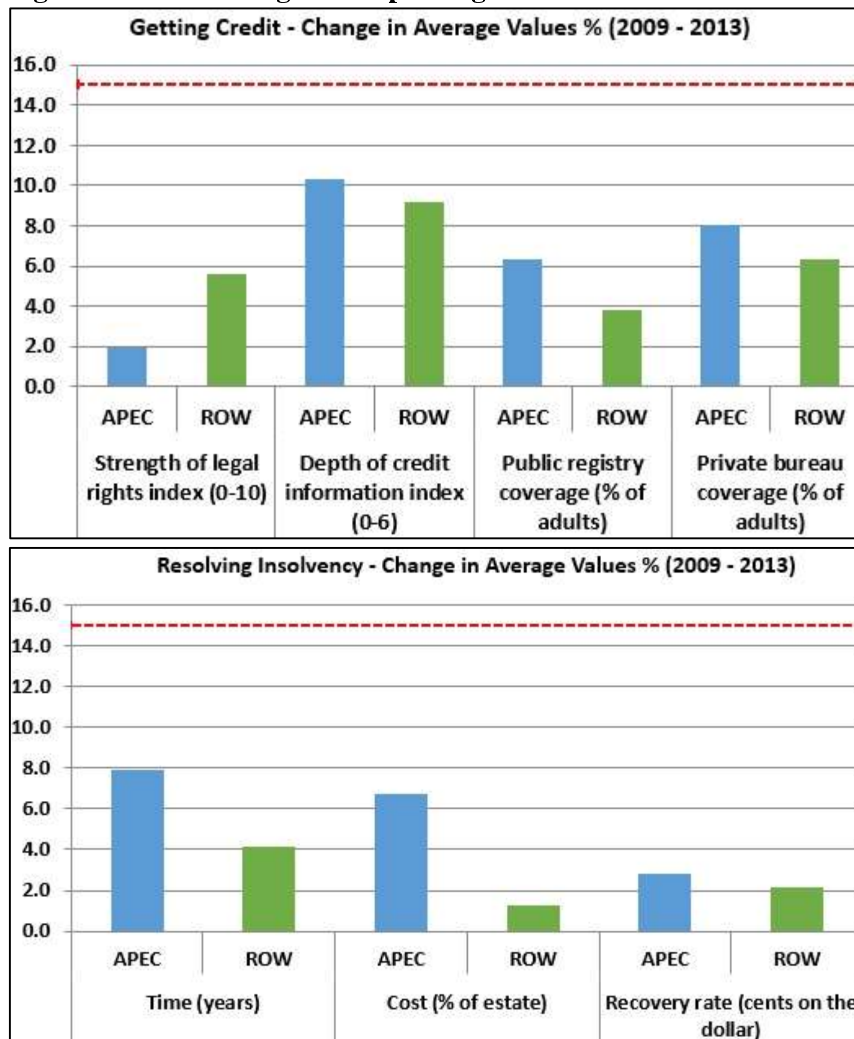
The section has, so far, discussed the business demand for financing, especially by SMEs and pointed to the concern over access to financing as an obstacle to business growth and the high cost of financing as indicated by the overcollateralization requirement. The fact that majority of working capital needs are not funded by banks represents significant possibilities still for financial institutions to support SME growth. On the credit supply side, the paper discussed the various surveys that point to concerns regarding the secured transactions environment and absence of financial infrastructures that facilitate lending. For example, the surveys highlighted the weakness in collateral management and warehousing capacities in the region, issues related to creating security interest because of lack of documents of title, as well as problem in enforcing security interest. The World Bank survey similarly points to similar issues along with the current state of secured transactions environment, lack of

[31] Even though insolvency regime is typically set up by a Bankruptcy or Insolvency Law instead of by transactions law, the two issues are very closely intertwined.

clarity of the legal framework in some economies, the absence of collateral registries and issues about resolving insolvencies.

Figure 12 gives a succinct summary of APEC ambition to improve credit access by a 15% improvement in the Doing Business priority area. The line corresponds to the target by 2015 while the graph shows the progress that has been achieved. In particular, APEC has had a 10 percentage point growth from 2009 to 2013 in the depth of information index and had improved far better than the rest of the world, but for the strength of legal rights index, it has a long way to go to achieve a 15% improvement. Similarly, for the resolving insolvency[32] priority area, the speed and the cost for recovering loans have improved by eight and seven percentage points, respectively, but the recovery rate has shown little change.

Figure 12. APEC Target of Improving Business Environment



Source: PSU calculation based on World Bank Doing Business

What this means is that significant policy reforms still need to be done to meet APEC's ambitious target of improving secured transactions regulations across the region by 2015. Considering how long reform usually takes and how much gap there is to fill, it is to be expected that APEC will fall short of its aims. Nevertheless, maintaining the high bar to hurdle and extending the timeline for meeting it will still be a useful exercise for APEC, for lenders, and ultimately, for the SMEs in the region which can benefit from improved secured transactions environment through increased access to finance.

a. Parsing Past Reforms

Table 5 shows how some APEC economies have improved the legal environment, established or unified collateral registries and enhanced the role of credit bureaus. It details what type of reforms

[32] Resolving insolvency is not one of the five EoDB priority areas for APEC, but we apply the same target of 15% improvement for purposes of discussion.

have been carried out by which APEC economy from 2008 to 2014. The same information is borne by Figure 11 above which shows movements of APEC economies closer towards the regulatory frontier, i.e. closer to what is considered the 'best' regulatory environment.

Table 5. Secured transactions reform (2008 – 2014)

Economy	Credit bureau	Collateral registry	Legal reforms
Australia	✓	✓	✓
Brunei Darussalam		✓	
Chile		✓	
China		✓	✓
Indonesia		✓	✓
Korea			✓
Mexico		✓	
New Zealand	✓		
Papua New Guinea	✓		
Philippines	✓		
Russia	✓		
Singapore	✓		
Chinese Taipei			✓
Viet Nam	✓	✓	✓

Source: PSU analysis and compilation based on reforms information from World Bank Doing Business

On credit bureaus, many of the reforms are related to facilitating the collection of customer information such as payment history and credit data. They are also about making it easier for relevant organizations including borrowers themselves to access their own data. On collateral registry, reforms are generally focused on establishing a unified, easier to access, and searchable collateral registry which can be used to establish priority and to enforce security interests. Similar to credit bureau, some of the reforms also involve giving rights to borrowers to inspect data stored in these registries. Legal reforms involved either the introduction of new regulations to broaden the scope of possible security interests, i.e. include certain types of movable collaterals; or enhancements of existing regulations to complement reforms related to credit bureaus or registries.

Table 6. Reforms related to resolving insolvency (2008 – 2014)

Economy	Reforms
Australia	• DB 2012: Australia clarified the priority of claims of unsecured creditors over all shareholders' claims and introduced further regulation of the profession of insolvency practitioners.
China	• DB 2008: China adopted a new Enterprise Bankruptcy Law that introduced reorganization procedures; allowed for the formation of creditors' committees; granted rights to secured creditors; and established a role for professional bankruptcy administrators.
Hong Kong, China	• DB 2009: Hong Kong, China amended the respective powers and duties of trustees granting them more power. This is expected to make the liquidation procedure more efficient.
Japan	• DB 2011: Japan made it easier to deal with insolvency by establishing

	a new entity, the Enterprise Turnaround Initiative Corporation, to support the revitalization of companies suffering from excessive debt but professionally managed.
Korea	• DB 2013: Korea expedited the insolvency process by implementing a fast track for company rehabilitation. • DB 2011: Korea made it easier to deal with insolvency by introducing post-filing financing, granting superpriority to the repayment of loans given to companies undergoing reorganization.
Malaysia	• DB 2012: Malaysia established dedicated commercial courts to handle foreclosure proceedings.
Mexico	• DB 2009: Mexico amended its bankruptcy law to make reorganization more accessible. Now debtors and creditors may enter into a reorganization agreement at any stage of the insolvency procedure.
New Zealand	• DB 2009: New Zealand introduced a reorganization procedure. The aim is to provide an alternative to liquidation and receivership and maximize a company's chances of continuing as a going concern.
Philippines	• DB 2012: Philippines adopted a new insolvency law that provides a legal framework for liquidation and reorganization of financially distressed companies. • DB 2010: Philippines promoted reorganization procedures by introducing pre-packaged reorganizations and also regulated the receiver profession.
Russia	• DB 2011: Russia introduced a series of legislative measures in 2009 to improve creditor rights and the insolvency system. • DB 2010: Russia introduced several changes to its insolvency law to speed up the liquidation procedure and strengthen the legal status of secured creditors.

Source: World Bank Doing Business.

To improve resolutions of business insolvencies, APEC economies also undertook several regulatory changes shown in Table 6. These took different forms. Some economies passed legislations that clarify the priority of claims, sought to improve the efficiency of liquidation or reorganization procedures by, for example, establishing special entities for corporate reorganizations or dedicated commercial courts for foreclosure proceedings. Other economies without previous insolvency laws passed legislation which provides the legal framework for liquidation or reorganization of distressed companies. Interestingly, other economies started the 'professionalization' of insolvency practitioners and introduced regulations and specific requirements for those that carry out insolvency practice.

b. Future Needs and Reforms

The Doing Business survey will continue to provide the impetus for further reforms related to strengthening the secured transactions environment in APEC Economies. With help from multilateral organizations like the International Finance Organization (IFC), more economies are in the process of developing collateral registries and passing secured transactions law based on international best practice. One important reform that is critical for trade financing is, however, worth highlighting – that of improving warehousing capacity in the region.

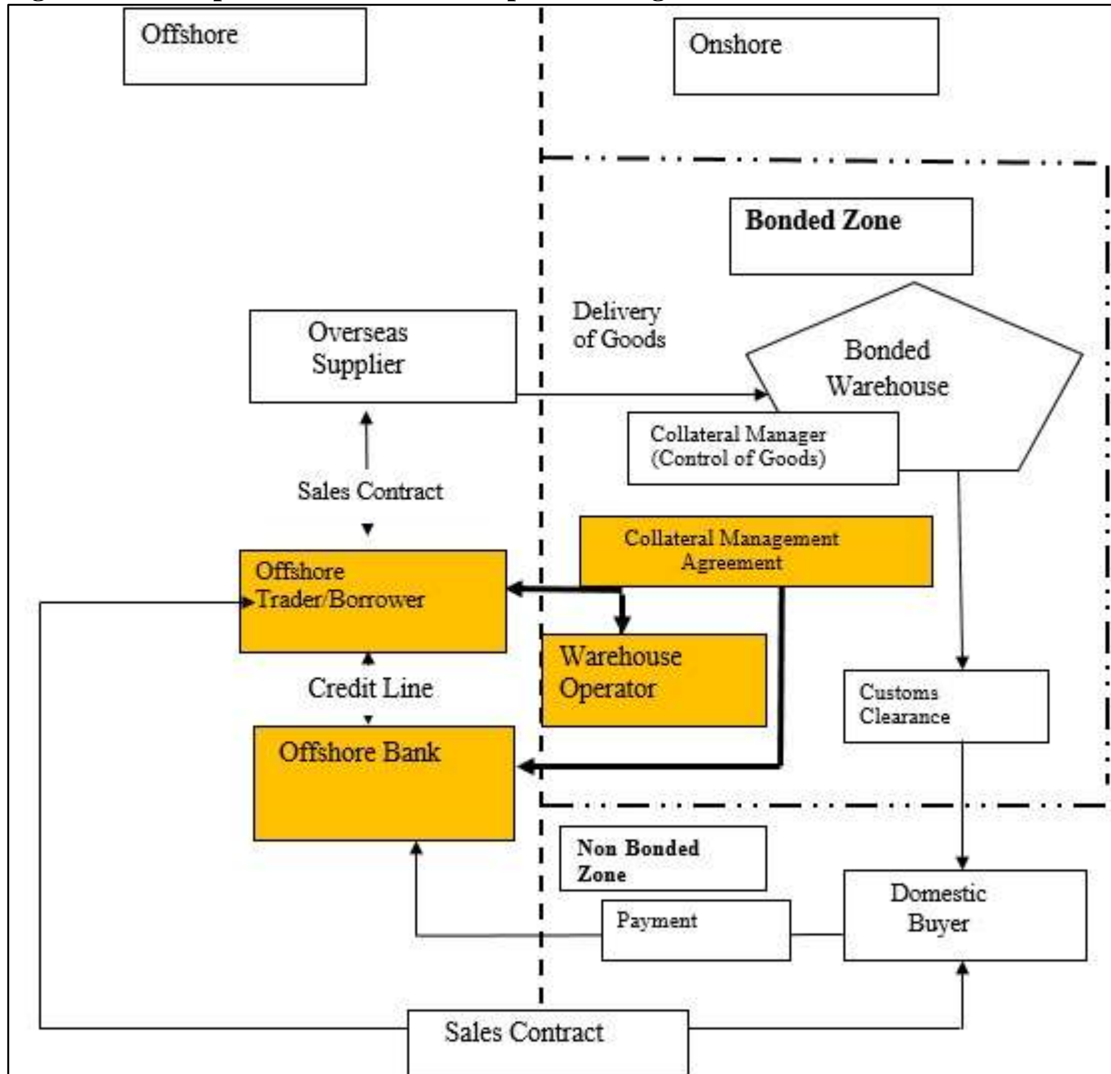
i. Strengthening collateral management companies and warehousing capacity

Among the elements of secured transactions environment that the PSU-APFF-ABA Survey highlighted is the weakness of the warehousing capacity in the region. As Figure 8 above shows, bank respondents deem collateral management companies in developing Asia inadequate, both in number, collateral management capacities, and physical infrastructure. In addition, the legal framework relating to warehouse receipts which in many developed markets are used as collateral for financing is not yet well understood nor well developed.

Just how does warehouse financing work and how critical is this type of financing for supply chains? Figure 13 shows an example of how critical is warehousing in the trading activity. In this figure, the import deal takes place offshore where the global trader buys from a supplier and have the products shipped to the importing economy for a domestic buyer. The trader (as importer) has the title to the goods that are delivered in the bonded warehouse in the importing economy. Financing for the transaction is made possible through a three party collateral management agreement (CMA) between the trader, the offshore financing bank, and the bonded warehouse operator who is responsible for the release of the goods. The warehouse operator provides a warehouse receipt and if warehouse receipts are considered documents of title[33] in the importing economy, then it is sufficient as security interest for the financing bank; else, the financing bank would require additional security interest like a pledge on top of the warehouse receipt. The warehouse operator upon issuing a warehouse receipt acknowledges that he has received the goods and that he will only release the goods based on instructions of the financing bank since the warehouse receipt is held to the order of the bank. In warehouse financing, the warehouse operator is key since, besides being an important link in the supply chain as bulk shipment almost always have to make use of warehouse storage, he has actual possession and control of the goods. Release of the goods is possible only through authenticated instructions from the bank. In turn, the release of the goods will be authorized once the financing bank receives its payment. The warehouse operator will then issue a delivery order to the buyer and will cancel the warehouse receipt representing the particular parcel that has been released. The procedure is repeated until the full cargo is released.

[33] In jurisdictions where warehouse receipts are not documents of title, the warehouse receipt has to be accompanied by a pledge agreement where the owner pledges the goods stored in the warehouse to the financing institution (Cenzon, 2014).

Figure 13. Example of Warehouse Receipt Financing



Source: Author and Cenzon (2014).

Warehouse receipts financing is used by very large, established global traders and banks but is also very useful for firms without strong balance sheets. The reason is that the goods stocked in warehouses can be used as collateral to access financing. But it can also go awry. Box 5 is an illustration of how problems in warehousing facilities can unsettle the financing of businesses. The case revolves around the apparent fraud in Qingdao (China) port where multiple fraudulent warehouse receipts for the same stock of metals stored in the warehousing facility were used as security interest to obtain financing from multiple creditors. Revealed total exposures of banks and large global trading companies[34] total about US$900 million involving 100 thousand tons of aluminium, 200 thousand tons of alumina, and 20 thousand tons of copper.

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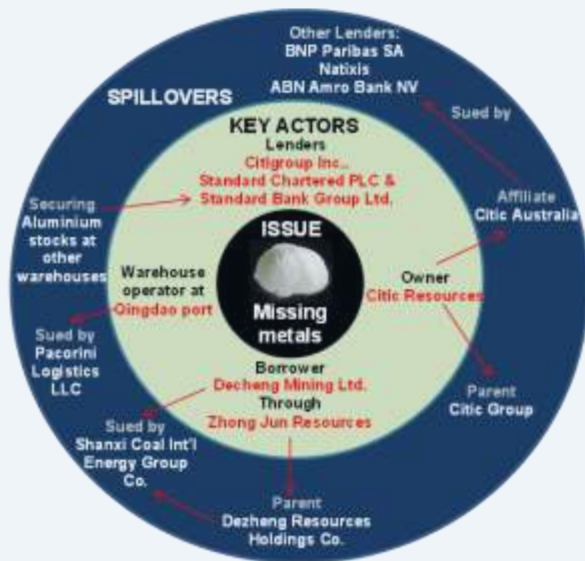
[34] This includes big global banks such as HSBC, Standard Chartered Bank, Citibank, Standard Bank (South Africa) as well as global trading companies like Mercuria Trading SA, Citic Resources Holdings based in Hong Kong, China and is a subsidiary of China-based state-owned Citic Group.

Box 5. Mystery of the Missing Metals in Qingdao



The case revolving around Qingdao metals came to public attention in June 2014 when a subsidiary of Citic Group, one of China's largest state-owned enterprises reported that approximately half of its alumina stockpiles could not be located. The missing alumina was stored in the port city of Qingdao and had been pledged by Decheng Mining Ltd. through Zhong Jun Resources, both subsidiaries of Dezheng Resources Holdings Co., in return for loans. As the probe expands, investigations have gone beyond locating the missing alumina to highlighting another serious problem, that is the pledging of same assets using fake warehouse receipts to more than one lender to obtain multiple loans. The table below shows some of the disclosed exposure and related claims that have been made in response to this case:

No.	Organization	Exposure/Claim	Source
1	Standard Chartered PLC	US$ 250 million due to the missing metals in Qingdao	The Wall Street Journal (11 July 2014)
2	Standard Bank Group Ltd.	US$ 170 million due to the missing metals in Qingdao	The Wall Street Journal (11 July 2014)
3	Citic Resources	US$ 50 million due to the missing metals in Qingdao	The Wall Street Journal (11 July 2014)
4	Shanxi Coal International	US$ 89.75 million plus interest against Citic Australia Commodity Trading (CACT) for undelivered aluminium ingots	Metal Bulletin News Alert Service (28 August 2014)
5	Shanxi Coal International	US$ 177 million in missed payments and interest against six companies, including Dezheng Resources Holdings Co. and Decheng Mining Ltd.	The Wall Street Journal (30 June 2014)
6	Pacorini Logistics LLC	US$ 58 million against Qingdao port's two subsidiaries over allegedly undelivered aluminium	American Metal Market (28 August 2014)
7	Citic Resources	US$ 108 million against Qingdao port over missing cargo	Metal Bulletin News Alert Service (18 August 2014)
8	ABN Amro	US$ 162,466 against Citic Australia for wrongful preservative measures of maritime claim against cargo whose pledge right is owned by ABN Amro	Metal Bulletin News Alert Service (18 August 2014)
9	Citigroup	US$ 285 million of financing in return for metals stored in Qingdao and Penglai	Reuters News (1 August 2014)
10	Standard Chartered PLC	US$ 36 million as part of a US$ 40-million loan facility for Zhong Jun Resources	American Metal Market (22 July 2014)

Source: Compiled by Author from Factiva.com news archive

Investigations on the alleged fraud are on-going and court cases have sprouted lodged by defrauded creditors, but the impact of this incident had gone beyond the losses suffered by the banks. First casualty is the shattered confidence in China's warehousing and collateral management capacity. In the Qingdao metals case, some creditors shifted the location of their metal inventories to other

warehouse locations in Hong Kong, China; Korea; and Chinese Taipei. LME (London Metals Exchange) – licensed warehouses benefited from these transfers. Second is pullback of warehouse receipts financing in China and consequent credit tightening. As is usually the case during tightened credit conditions, smaller traders are most adversely affected; in this case, the private traders will get the financing squeeze while the large state-owned traders sails through.

Third, the case has spillovers to other actors, especially traders, both global and local, that have put their inventories in Qingdao port. For example, Citibank demanded an early repayment of a repurchase agreement with Mercuria (a global trading firm) that is backed by metals held at the port in a preemptive effort to protect Citibank's financing. Mercuria sued for the sudden change in the contract, Citibank countersued to defend its action. Other traders are also being sued for failure to deliver metals and for breach of contracts not through fault of their own but because they cannot bring out their metals stock from the warehouse after the fraud investigation started. In turn, guarantors are drawn into the quagmire of court cases.

Fourth and very importantly, the case also highlights enforcement issues especially when parties seek judgment from courts outside China but whose enforceability within China is doubtful. For example, the battle between Citibank and Mercuria is lodged with the British court; HSBC and other banks in Singapore has suit against Decheng Mining which is involved in the fraud investigation but the case is held in Singapore. Whether these suits would be resolved in a satisfying way for creditors is interesting to watch.

The lesson in the Qingdao case is that there is need for increased scrutiny and improved capacity and transparency in warehouse operation. It is a critical link in the supply chain and thus needs to be strengthened with the view to the following core elements of a well-developed warehouse receipt system.

- First is the importance of good reputation and track record of collateral management companies. This can be facilitated by having a regulatory and supervisory agency that licenses and regularly audits collateral management companies[35]. As the Qingdao metals case showed, both the bank and the borrower are highly reliant on the warehouse or collateral manager who, more than a mere warehouse keeper, assumes the risk and control of the goods the moment it issues the warehouse receipt.
- Another core element is the availability of insurance. The warehouse operator must insure the cargo, the premises, as well as staff-related risks which should help protect financing institutions from risks of theft, fraud or negligence. The availability and growth of these types of insurance, so-called fidelity insurance, needs to be encouraged and supported.
- Growth of warehousing needs the proper legal and regulatory framework where warehouse receipts are recognized as movable collateral suitable for financing. This is part of the on-going legal reforms in many emerging economies in APEC.
- In view of this, warehouse receipts should, like other security interests, be registered in a collateral registry to prevent events such as multiple issuance of receipts from occurring[36].

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[35] Collateral management companies are not regulated in China, hence the possibility of collusion with borrowers to write multiple warehouse receipts. Along with this is the lack of understanding of the important nature of warehouse receipt financing. Some creditors, particularly domestic ones, did not have proper entry requirements for their collateral management companies (CMCs), did not do a proper due diligence on warehouses, did not understand the business and the operating cycle of the borrowers, and did not properly structure their loans (Source: e-mail correspondence with one interview respondent. PSU respects confidentiality agreement with surveyed banks and interview respondents).

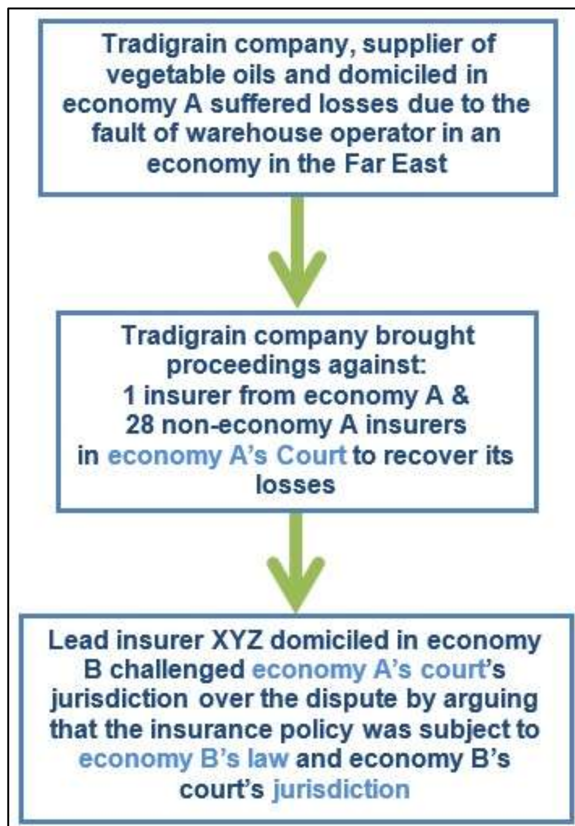
[36] In the Qingdao case, part of the problem appeared to be linked with not having a centralized collateral registry. The security interests on inventory (of metals in the warehouse) is registered with China's Administration of Industry and Commerce (AIC). In contrast to the Credit Reference Center of the People's Bank of China (CRC) which is super modern, the AIC is not a web-based national system. Under condition of an unreformed registration system, it is difficult to find out multiple warehouse receipts in the AIC registry.

ii. Improve Enforcement Through Accession to International Agreements

As mentioned in the above discussions of the missing metals in Qingdao port, enforcement is a major issue when something goes wrong with the financing transaction. The jurisdiction and applicable law is critical in the enforcement of the security. The enforcement problem is less of an issue if the contract and the Parties to the contract are in a jurisdiction where the courts have known probity and capacity to interpret international trade contracts. But what if the courts adjudicated correctly and applied the correct law over the case but the enforcement is to be carried out in another jurisdiction? This is, for example, the case of one court dispute being heard in London but the concerned collateral is located in Qingdao, China.

Figure 14 shows an example of jurisdictional issue where claimant and guarantor do not agree on which court has jurisdiction over the disputed case. In Figure 14, Tradigrain company has a collateral management agreement with a warehousing company located in a South Asian economy. In a case of lax warehouse management, Tradigrain's inventory was released to the buyer without proper authorization and before Tradigrain received payment. To recover its losses, Tradigrain sought to collect from its insurers, a syndicated set of 29 insurance companies, only one of them is from the same economy as Tradigrain. The leader of the insurance syndication wanted that the case be heard by another court arguing that the insurance policy is subject to another economy's law and another economy court's jurisdiction. The result in this case is that Tradigrain's economy's court only heard the case against one insurer that was in the same economy as Tradigrain, and ruled (in favor of the lead insurer) that it has no jurisdiction over the 28 other insurance companies.

Figure 14. An Illustration of Jurisdictional Conflict

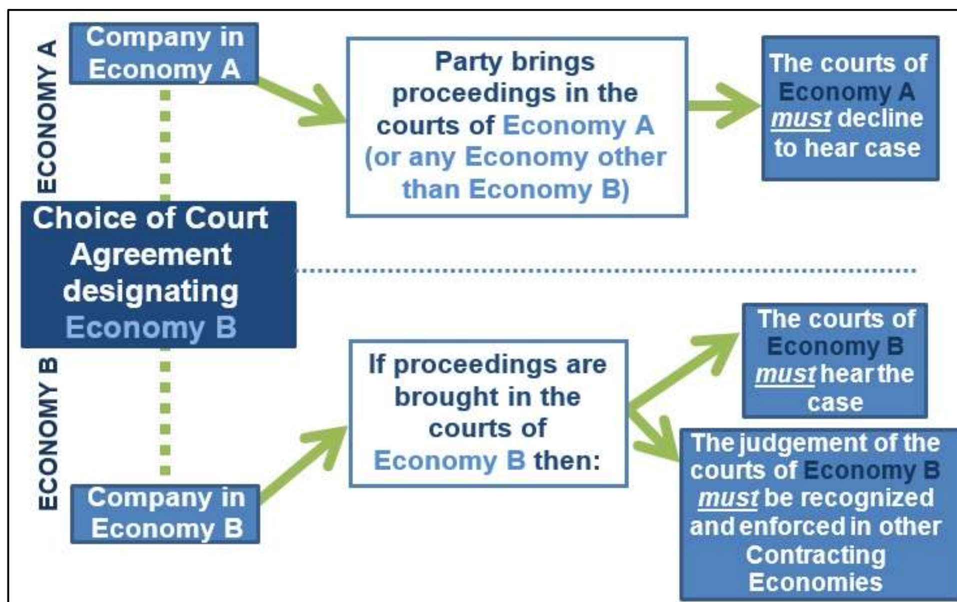


Source: Author and Cenzon (2014)

Choice of Court Convention

The Hague Convention of 30 June 2005 on Choice of Court Agreements (or the Choice of Court Convention) aims to address jurisdictional issues and to ensure the enforcement of court decisions. Under this Convention, the chosen court, contractually agreed upon by Parties signing the contract, has jurisdiction over the case, thus offering predictability of forum that will hear the case in the event of dispute. It prevents parallel court proceedings which can be costly and can potentially render conflicting decisions because the Convention obliges other courts to refuse to hear the case. It provides more certainty in regard to enforcement of judgments rendered by the chosen court because as described in Figure 15, the Convention imposes the obligation to recognize and enforce the chosen court's decision[37]. The last obligation achieves the same effect as decisions made by international Arbitration tribunals which is widely accepted and implemented.

Figure 15. Operation of the Choice of Court Convention



Source: Bernasconi (2014)

The Choice of Court Convention has not yet come into effect, however, because as of this writing, only Mexico has ratified the Convention. It needs at least one more economy to ratify for it to enter into force. However, many other economies, including Argentina; Australia; Costa Rica; the European Union; New Zealand; and Turkey are seriously considering accession. The USA signed the Convention but is still studying how the Convention will impact their Federal and State court system. If the Convention comes into force, it has the potential to significantly lessen the jurisdictional problems and enforcement among contracting economies.

UN Convention on the Assignment of Receivables in International Trade

Another international agreement which has not yet come into force but will be another useful instrument to improve secured transactions environment is the UN Convention on the Assignment of

[37] The operational effect of the Choice of Court Convention is as follows. First, the choice of an 'exclusive' court obliges other courts in any other jurisdiction to refuse to hear the case. Second, it obliges the designated court to hear the case. Third and very importantly, it obliges the recognition and enforcement of the decisions by the designated court in any other Economy that is signatory to the Convention.

Receivables in International Trade. To date, only one economy has acceded to the Convention. The Convention seeks to reduce legal uncertainty associated with transactions like asset-based lending, factoring, forfaiting[38], securitization and project financing which are used for financing international trade. Some of the principles adopted in the Convention relating to the assignment of receivables include:

- "Removal of statutory prohibitions to the assignment of future receivables and of receivables that are not specifically identified (bulk assignments);
- Removal of contractual limitations to the assignment of trade receivables, agreed between the parties to the contract from which the assigned receivables arise;
- Clarifies the effect of an assignment on rights securing payment of the assigned receivables."[39]

The Convention removes uncertainty on who has priority in being repaid in case of conflicts between an assignee and competing claimant(s). This is done by subjecting priority conflicts to a single law, likely the law of the Economy from which the assigned receivables arise. The Convention also provides model substantive laws governing priority between competing claims which economies can consider adopting if they seek to reform its domestic legal framework.

[38] Forfaiting is the purchase of receivables from exporters by a forfaiter. Essentially, the forfaiter earns a margin by freeing the exporters from credit and taking on all the risks associated with the receivables including non-payment by importers. In contrast to factoring, forfaiting is usually used for long maturing assets.
[39] From "Explanatory note by the UNCITRAL secretariat on the UN Convention on the Assignment of Receivables in International Trade". See http://www.uncitral.org/pdf/english/texts/payments/receivables/ctc-assignment-convention-e.pdf

III. UNDERSTANDING SUPPLY CHAIN FINANCE 2

Aside from understanding supply chain finance as *structured trade finance,* it is also defined, especially among the banking community, as a specific financing vehicle that support buyer-seller supply chain. For companies that use supply chain financing, it is a tool for working capital management.

The starting point is the fragmented production supply chain that manufacturing business had become and the stark reality that a seamless supply chain is not always a reality as is sometimes neatly envisioned. Manufacturing face major risks and disruption in its supply chain from various sources, but the one that drove the point home deeply was the earthquake and tsunami that hit Japan in 2011. The event highlighted how small but highly specialized firms' failure to deliver supplies due to the infrastructure destructions from the earthquake could lead to the temporary shutdown of factories in other parts of the globe because essential parts and components from Japanese SME suppliers were missing. The risks from various supply chain disruption require an inventory management model that moves away from physically vulnerable strict just-in-time supply chain model to one that hold more inventories and work-in progress. The strategy minimizes the supply chain disruption risk but the downside is that inventories tie up working capital. To manage working capital, companies push for longer and longer terms of payment (or maximize days payable outstanding (DPO)) from its suppliers. Because of their strategic dependence on specific buyers, suppliers are forced to agree to longer terms of payment but the buyer's working capital management strategy merely shifts the burden on to suppliers[40]. In some cases, especially during the global financial crisis, the suppliers' working capital burden threatened the stability of the buyer's supply chain because they could not produce without adequate financing. Supply chain financing is one efficient solution that addresses the conflicting objectives of buyers and sellers. It provides a potentially win-win solution where both buyer and seller maximize liquidity efficiency[41].

Box 6 illustrates how a buyer-led supply chain finance works. In a typical supply chain finance scheme, buyer, usually a multinational company or one with investment grade credit quality, partners up with a bank that will structure the supply chain financing facility and provide the funds. Buyer then gives the bank a list of its suppliers, then buyer and bank both invite suppliers to participate in the supply chain finance[42]. Once set up, what supply chain finance entails is a buyer-seller (supplier)-bank link up through a (digital) technology platform[43] which provides the visibility of the transactions. In particular, upon shipment of the goods, suppliers invoice the buyer stating agreed payment terms and sends the information to the technology platform. The buyer likewise transmits the account payable file with approved invoices to the technology platform. With supply chain finance, supplier has the option to receive payment earlier, in as little as two days depending on the structuring bank, if it opts to sell its receivables at a discount[44]. Thus, instead of waiting for the receivable to reach maturity which can be as short as 30 days or as long as 120 days, seller can manage its working capital with less need for large bank credit line or working capital loans.

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[40] This is one reason why there is, sometimes, tense relationship between buyer and seller.

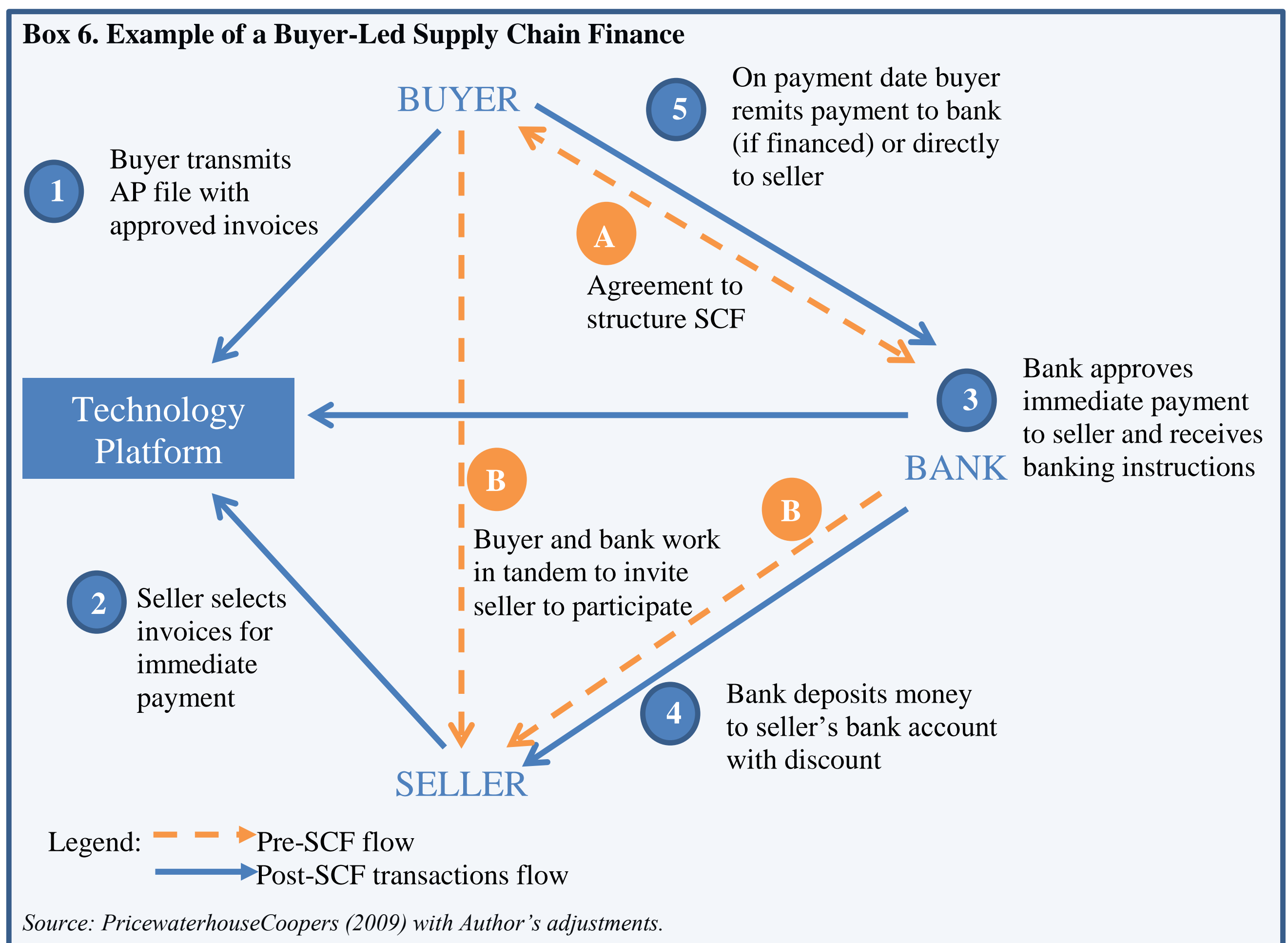
[41] The model where only the buyer is able to maximize its DPO is an inefficient way of raising financing because the suppliers are forced to raise funds from financial institutions for working capital. But the suppliers' cost of funds are higher than those of big buyers who typically enjoy investment grade rating. The higher cost of funds of suppliers are eventually passed on to buyers through higher prices and ultimately get passed to final consumer.

[42] This type of structure also allows the supplier to access financing without impacting their own banking relationships and facilities.

[43] The platform may be proprietary of the bank or managed by a third party.

[44] It can also use the account receivables as collateral to obtain working capital loans.

Box 6. Example of a Buyer-Led Supply Chain Finance



Source: PricewaterhouseCoopers (2009) with Author's adjustments.

In supply chain financing, banks provide funding to suppliers on the basis of its account receivables. The transparency of the transactions which the technology platform allows enables banks to effect fund release to suppliers in a short period of time. Buyers, meanwhile, only need to pay for the delivered goods upon maturity of the account payable regardless of whether the supplier opted to submit its invoice or account receivable for discounting or not. If the supplier sold the account receivable, buyer pays the bank directly; else, it pays the seller directly.

Setting up the supply chain finance arrangement is the hardest part of the job. Part of the challenge in setting it up is to get suppliers' buy-in which, depending on the scope and complexity of the buyer's supply chain, can entail only several key suppliers or a multitude. Overall, it takes long to set it up[45] but afterwards, actors in the supply chain finance link greatly benefit from the stable relationships.

1. Advantages of Supply Chain Finance

Supply chain finance proved beneficial during the global financial crisis when companies, particularly SMEs, found it difficult to obtain financing from banks. Threatened by the potential bankruptcy of suppliers and possible destabilization of its supply chain, some multinational companies decided to use supply chain finance to obviate their suppliers' difficulties. Using the buyer's credit quality, banks provided funding to small suppliers through the purchase of its account receivables. The cost of this

[45] Some estimate about six months to implement a supply chain finance program, others estimate as long as 18 months.

financing was lower than if the suppliers applied directly for a loan because the bank premised the financing, not on the supplier's, but on the buyer's creditworthiness. Supply chain finance helped in the stability of supply chain and aided in improving buyer-supplier relationship.

By using supply chain finance, buyers are able to manage its working capital more efficiently through the possibility of extending payment terms to suppliers or days payable outstanding (DPO) without jeopardizing its strategic relationship with its suppliers and destabilizing its supply chain. A well-structured supply chain finance program also helps improve the buyer's balance sheet because the payment is classified as a trade payable rather than a bank or capital market debt[46].

For the supplier, supply chain finance is a way to obtain cheaper funding because the bank cost is made on the back of the buyer's investment grade rating rather than on its own credit rating. If the supplier is an SME, its credit rating is usually below investment grade and thus financing usually costs higher than those of prime company clients.

Banks also benefit through the additional business that supply chain finance creates. It earns from the discount of the account receivables even as it lowers the overall credit risk of its portfolio because big corporate clients tend to have lower risk of non-payment (of its account payables). Spillovers into new supply chain financing can also follow as relatively big suppliers in the chain could also request the bank to structure another supply chain finance with themselves as buyer. The visibility enabled by the electronic platform also serves to validate the invoices and receivables thus limiting the possibility of funding fraudulent transactions.

2. Growth and development of supply chain finance

In some banks, supply chain finance has evolved from only being a side business of trade finance to a main focus, with some of banks' supply chains portfolios doubling or tripling over just 3-4 years. Supply chain finance programs could grow to nearly US$ 2 trillion in 5 years and Asia is expected to lead the growth[47].

Government support for supply chain finance program is also growing. The United Kingdom, USA and several other European economies implemented or are considering to implement their own supply chain finance solutions, allowing government suppliers to be paid earlier and to obtain funding on the back of receivables from the government. For example, in the UK, the government procurement strategy offers supply chain finance scheme to 4,500 community pharmacies. In the scheme, pharmacies get to be paid in full after just seven days instead of the usual eight weeks. They also receive lower discount rate for their receivable compared to what they might normally pay for a bank draft or credit line[48].

Supply chain finance has also grown among non-bank and platform providers. Some leading supply chain finance arrangements might involve not only one bank but multiple banks; not only one buyer but multiple buying entities in multiple economies, each buyer with their own constellation of suppliers, all participating on a single integrated platform. GTNexus or Primerevenue or Demica provide examples of such technology platforms where financial institutions, instead of creating a proprietary platform, make use of existing ones to effect payments.

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[46] Euromoney (2012).
[47] Ibid.
[48] JP Morgan (2013).

Third party supply chain finance platform, however, provides banks with less control over the onboarding[49] of suppliers where potential risks can emanate. For example, the buyer may return the products due to unacceptable quality, leaving banks with receivables that have become worthless. There are ways to mitigate this risk, among them ensuring that buyers only invite very reliable suppliers, and only those they have had years of relationship, to participate in the supply chain finance program. For buyers, third party provided platforms with multi-bank participation help diversify source of liquidity should its bank lose appetite for its own supply chain finance program.

3. Challenges

Despite the many advantages from supply chain finance, the share of open account/supply chain finance in bank's portfolio of trade export finance is still relatively low at 20% (ICC, 2014). One reason is its late starter status, having been recognized as one that makes good financial sense only starting during the global financial crisis. But the awareness about its usefulness is growing. The other reasons constitute both internal and external challenges for both banks and clients (buyer).

Among the internal challenge for buyer consists in the 'traditional' corporate structure where different departments operate in silos. In structuring supply chain finance program, both procurement and treasury departments of multinationals have to cooperate whereas previously they operated on the basis of different, at times competing, key performance indicators (KPIs). For example, treasury departments want payment terms to suppliers that is as long as possible, while procurement people prefer to have good supplier relationships and may balk at alienating suppliers with long payment terms[50]. Hence, to implement a supply chain finance in corporations often require long internal negotiations especially between procurement and treasury departments, and to a certain extent, culture change, and needs strong backing from the top of the organization.

The external challenges are those that banks face, particularly in view of the prevailing regulatory environment that is driving them into very conservative stance in lending. The paper discusses three regulatory issues that appear to have a major influence on bank lending decisions and thus impact on the growth of supply chain finance.

a. Know-your-Customer, Customer Due Diligence, and Anti-Money Laundering (KYC, CDD, AML)

A major factor causing the slow uptake of supply chain finance by more banks is the difficulty associated with the supplier onboarding process. Multinational corporations have suppliers from all over the world, usually from fast growing emerging economies. Even if the buyer is the ultimate obligor and bears the credit risk, banks, reflecting an over-cautious stance, still do a full know-your-customer (KYC) procedure of the suppliers. KYC procedure means a thorough assessment of each company profile. This is not much of a problem for domestic suppliers but for foreign suppliers, the KYC necessitates large resources for banks[51] because it requires the banks to either have physical presence in each of the suppliers' economies to execute the KYC mandate well or tap on good sources of information to execute the same. But not all economies and companies have the same level of control and proper systems to collect and store KYC-required data which add to the bank's onboarding difficulties. Local banks with which the buyer's bank have correspondent banking relationship can assist in doing KYC check but ultimately, the onboarding bank is mainly responsible. KYC norms do not allow for outsourcing KYC procedures. Banks can send personnel directly to the

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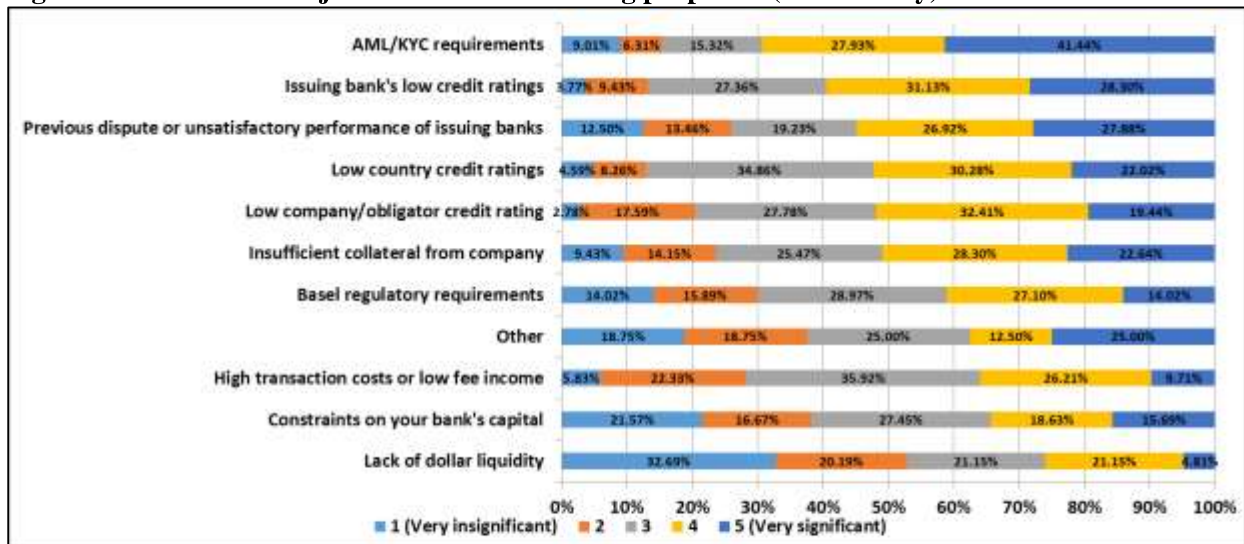
[49] Onboarding generally involves several steps such as assessing suppliers, establishing credit process compliance, agreement to legal terms and ensuring adherence to policies and regulations.
[50] Ibid., JP Morgan (2013).
[51] Compliance cost has been cited to reach as high as US$75,000 per counterparty (ICC,2014).

different economies to do first hand KYC procedure but this makes the process too expensive, especially if the suppliers are only small and medium scale enterprises.

The multi-economy characteristic of multinational corporations' supply chains also requires for banks to be familiar with laws of different economies, for example laws on receivables, proper title document and transfer or assignment of security interests, in order to assess risks in purchasing receivables through supply chain finance[52]. The practical difficulties of executing KYC for multiple suppliers in multiple economies, along with highly variable legal and regulatory environment surrounding account receivables, explain the slow SCF take-up.

Both the PSU-APFF-ABA survey and the ICC survey reflect the importance of KYC, AML, CDD reasons for the bank decision to reject trade financing proposals (Figure 5 above and Figure 16 below). Though the survey question applies to general trade finance and not specifically to supply chain finance, both surveys show that majority of banks consider AML/KYC requirement as significant or very significant in the decision to reject a transaction. In the PSU-APFF-ABA survey, among the highly rated reasons for rejecting the trade financing proposal are those related to financial crime risk and various customer due diligence (with counterparty or with customer). In the ICC 2014 survey, 68% of banks report decline in transactions while 31% report termination of correspondent banking relationships due to KYC/AML issues.

Figure 16. Reasons for rejection of trade financing proposals (ICC Survey)



Source: ICC Global Trade and Finance Survey 2014.

SMEs and specific geographical regions are the biggest casualties from banks' funding shrinkage due to high compliance (AML/KYC) cost. The ICC survey finds that small and medium sized trading enterprises, corporates, and financial institutions are the most impacted by banks' stringent compliance requirement[53]. Similarly, Africa and developing economies in Asia are among those reported by banks to be likewise adversely affected, but less so are developed economies. Much of this is also due to the governance arrangements in different jurisdictions and since governance is usually relatively weaker in developing economies, global banks are more cautious in extending credit in those places. For example, Figure 17 shows anti money laundering index developed by the Basel Institute on Governance. It is computed as a weighted average of various factors such as the adequacy of AML/KYC framework that is in place, the level of corruption and sanctions, financial and public

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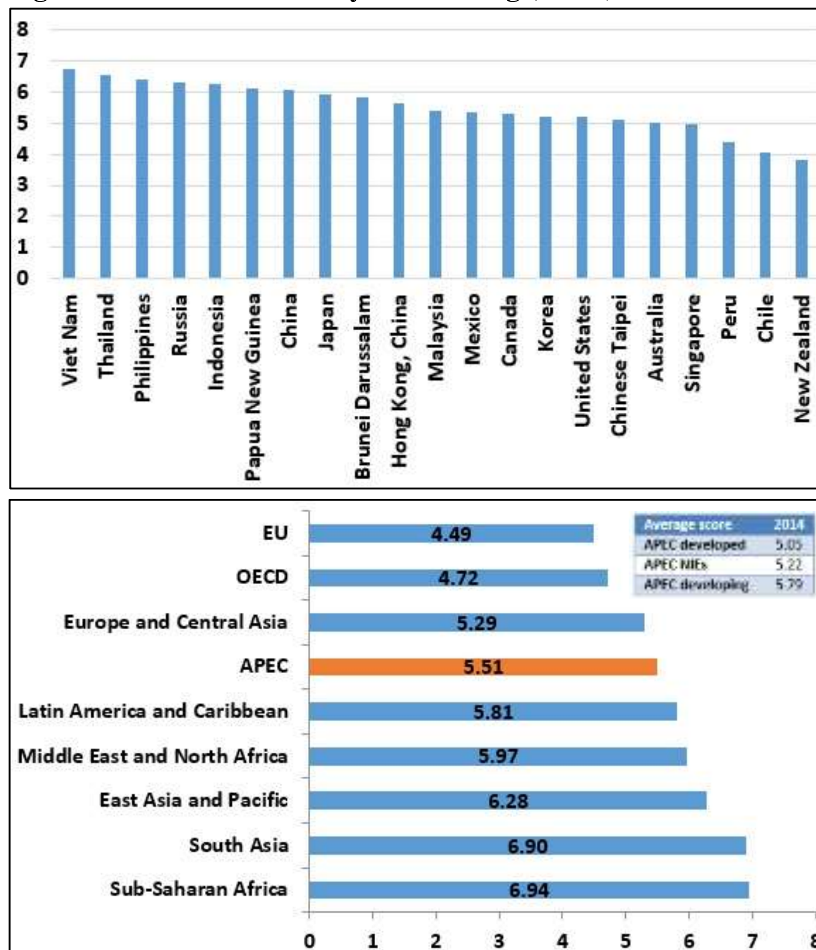
[52] Many of these associated legal issues related to asset based lending have been discussed in the previous sections.
[53] See Figure 74, p. 99 of ICC (2014)

transparency and general political and legal risk. Two APEC economies are in the top 50 list with the highest AML index, while, as expected, the developed economies have lower AML indices.

Figure 17. Basel Anti Money Laundering (AML) Index



Note: 0 is low risk while 10 is high risk.
Source: PSU calculations based on Basel AML Index information provided by Basel Institute on Governance[54].

What are possible solutions to the problem of high compliance burden? On one hand, the stringent KYC requirements are meant to protect the global financial system from being used for illegal activities by money launderers, criminals and terrorists. On the other hand, the behavioral effect of compliance on banks' appetite for risk is leading to financial exclusion especially of small and medium sized companies that need financing the most. Given the highly publicized penalties on several banks, it is not difficult, on one hand, to understand the prevailing over-cautiousness by banks. Table 7, for instance, shows some of the huge fines levied on some global banks (from 2009-2014) as well as consulting companies for violations related to either sanction economies, money laundering, or failure to flag high-risk transactions or to implement anti-money laundering controls.

Table 7. Selected Compliance-Related Penalties

Financial institution	Penalty	Levied by	Additional measures
Standard Chartered New York Office	US$ 300 M	USA	Indefinite suspension of some dollar payment processing businesses
PricewaterhouseCoopers	US$ 25 M	USA	Banned for two years from some consulting work
BNP Paribas	US$ 9.0 B	USA	
UBS AG	US$ 1.5 B	France	
Standard Bank	GBP 7.6 M	UK	

[54] See http://index.baselgovernance.org/index/Index.html#ranking.

Deloitte LLP	US$ 10 M	USA	One-year consulting ban for New York-regulated banks
HSBC	US$ 1.9 B	USA	
ING	US$ 619 M	USA	
Mizrahi Tefahot Bank	NIS 3.8 M	Israel	
Standard Chartered Bank	US$ 340 M	USA	
HSBC	US$ 27.5 M	Mexico	
Credit Suisse	US$ 536 M	USA	
Barclays	US$ 298 M	USA	
Royal Bank of Scotland	GBP 5.6 M	UK	
Lloyds TSB	US$ 350 M	USA	
TOTAL	**US$ 14.9 B**		

Source: Author's compilation based on press reports in factiva.com database.

Some suggest that banks should push for a 'KYC passporting' model similar to financial regulations in the EU economies whereby 'approvals' by one competent authority in one jurisdiction can be used as passport for approval in other economies without further review. How the KYC passporting model can be applied to fulfill KYC requirements remains to be seen. The current KYC regulations do not allow for an 'on-behalf-of' KYC procedure yet the passporting model is precisely like it. How could one guarantee that KYC procedures in one economy will be as stringent and thus acceptable as in another economy? Should there be problems with a passported transaction, will one economy's legal framework excuse the bank located in another economy that accepted the illegal transaction?

Another possible solution is for the harmonization of data requirements for KYC purposes and helping various economies that are lagging behind in its AML/Counter-Terrorist Financing (CTF) regulations through capacity building. This is a potential area where international organizations like APEC which undertakes a huge number of capacity building activities, can contribute[55]. At a minimum, what can be envisaged is a centralized and authorized database of registered companies in each economy with information on their contact details, board of directors, and officers and other necessary information for KYC purposes that is accessible online by financial institutions[56]. Singapore has such a facility managed by the Accounting and Corporate Regulatory Authority (ACRA), a statutory board established by the Singapore government. Among ACRA's mission is:

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[55] APEC has actually organized various capacity building workshops related to anti-money laundering and anti-corruption. For example, APEC's Anti-Corruption and Transparency (ACT) Working Group held in 2012 a workshop on 'APEC Principles for Financial / Asset Disclosure by Public Officials: Fundamentals for an Effective Tool to Prevent, Detect, and Prosecute Conflicts of Interest, Illicit Enrichment, and Other Forms of Corruption', a project that was based on APEC Leaders' commitments that have affirmed the importance of preventive measures and integrity of systems in the fight against corruption. Likewise in the same year, Thailand hosted a workshop on "Effectively Combating Corruption and Illicit Trade through Tracking Cross–Border Financial Flows, International Asset Recovery and Anti-Money Laundering Efforts: Its Impact on Poverty Reduction and Economic Growth." Another group that deals with secured finance is the Counter Terrorism Working Group (CTWG), which administered several workshops designed to help APEC members protect Designated Non-Financial Businesses and Professions from being misused for terrorist or criminal purposes. In 2015, USA has a self-funded project on 'Secure Finance Workshop on Countering the Financing of Terrorism with New Payment Systems.' (Source: email correspondence with APEC Secretariat Program Director for the concerned working groups).

[56] SWIFT and the Wolfsberg Group (www.wolfsberg-principles.com) have also developed KYC registry (or sometimes called 'due diligence registry'). The information contained in these registries, however, are those of financial institutions, not corporate's. These are useful for doing KYC check for correspondent banking relationships.

- "To establish and administer a repository of documents and information relating to business entities … and to provide access to the public to such documents and information".[57]

For KYC purposes, the central repository of company information provides basic information about the company, its location, the names of the major stockholders and officers of the company, as well as confirms the entity's legal existence. The fact that ACRA, the organization managing the registry, has some form of government backing (as a statutory board) gives assurance about the credibility and authenticity of the information contained in the registry. This service alone would be an important aid for both local and foreign banks undertaking KYC examination on any company registered in Singapore. If various economies in APEC can similarly adopt the same company registry to facilitate KYC procedures of companies from their respective economies, it would be a significant contribution to alleviating KYC/CDD/AML related concerns by banks and thus to preventing financial exclusion of financing-worthy enterprises.

On the clients' side, since companies often deal with multiple banks, each KYC check by each bank means multiple forms to fill up, repetitively. Standardized forms available in a common platform such as that available in the ACRA database will also facilitate KYC procedures for companies. Though provision of an electronic central database of registered companies can also be provided by a private entity, some ways of establishing the authenticity of the information contained in such databases would be warranted for KYC procedures.

To check if a client carries a potential compliance risk, the company information from a government-sanctioned register like ACRA's is a good starting point but not sufficient. Additional information will still need to be obtained, usually based on some fee-based specialized databases compiled by terrorism or money laundering experts[58]. Using data analytics, the nature of the transaction can also be monitored for patterns that reveal unusual behavior. All in all, financial institutions, in fact, already do all these steps to comply with AML/CTF regulations. Many of them have also hired additional staff solely to strengthen its compliance procedures. However, unless something is done about the prevailing expectation on banks as 'financial policemen' and slapped with heavy fines for every breach, banks will remain overcautious. Sadly, its adverse effects will not be felt by developed economies nor by big corporates but will fall heavily on less developed and developing economies and SMEs.

Banks' voluntary withdrawal from certain financing business is leading to a restructuring of the financial services industry, in particular to the growth of less regulated shadow banking activities (or non-bank sector)[59, 60]. For example, in trade finance, commodity traders have become more active in doing its own trade financing, often going directly to the capital markets or hedge funds to obtain financing. Not that this has not been done before, but that with banks increasingly constrained by regulations and reducing trade financing lines, non-banks stepped up more prominently to the front. Global cross-border factoring business has also grown significantly, posting turnover growth of 33% in 2012 and 15% in 2013[61]. Yet, even non-banks concede that they need banks' participation, expertise, and global footprint (with its network of subsidiaries or correspondent banking relationships) in structuring complicated financing deals[62].

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[57] https://www.acra.gov.sg
[58] An example is "World Check", a product of Thomson Reuters Governance, Risk and Compliance business unit which provides risk intelligence for KYC/AML/CTF purposes.
[59] See "Forcing banks to police the financial system is causing nasty side effects." *The Economist*. June 14, 2014.
[60] Ibid., and "Big banks are cutting off customers and retreating from markets for fear of offending regulators," *The Economist.* June 14, 2014.
[61] See Factors Chain International website.
[62] Though not directly related to trade financing, the adverse impact on worker remittance flows of global banks' withdrawal from some correspondent banking relationships should serve as a cautionary tale. This

b. Basel 3 regulations

Another major regulatory issue that is impacting trade finance are regulations related to Basel 3 implementation. Basel directives aim to improve the level and quality of capital held by banks, ensure sufficient liquidity buffer, and prevent similar catastrophe that the world experienced during the global financial crisis. Basel 3 seeks to achieve this largely using four indicators: bank's risk weighted capital ratio, their leverage compared to the balance sheet total, and their short-term and long-term liquidity profile. These four ratios are shown in Table 9. The discussion of the technical intricacies of the Basel regulations is beyond the scope of the paper but suffice it to say that the objective and motivation of the regulations was to balance capital (and liquidity) holdings with the risk the bank is taking - the riskier the bank lending the higher the capital and/or liquidity requirement. Risks are determined by several factors such as probability of default, maturity or tenor of the financial product, amount of exposure that would exist at the point of default, loss given default, as well as the type of asset, i.e. its default rate sensitivity to the economic cycle[63].

Initially lumping trade finance with other more risky bank assets, Basel Committee regulations threatened the availability and cost of trade financing because the boost in capital requirements for these supposedly safe but low margin products would increase banks' capital cost. In contrast with other bank assets, trade finance products have a low risk profile, with relatively low level of default rates and loss rates (see Table 8), due to its generally short-term, transactions-based characteristic. But trade finance products also yield low margins for banks which they try to compensate through high transactions volume. The previous sections have discussed how trade finance are secured by the (movable) goods; thus, as discussed, as long as the legal and regulatory framework is appropriate and the deals properly structured, banks are able to seize the goods (the loan collateral) and re-sell them to minimize their losses. By not differentiating trade finance products from other more risky assets, the Basel regulations required banks to incur the same capital cost as those for risky but highly profitable assets. Such regulation would, realistically, result to banks' reallocating less of its loan portfolio for trade financing and shifting more of it to high margin activities.

Table 8. Trade finance loss and default rates

2008-2012	Trade Finance	Other Corporate Lending
Default Rate	0.003% to 0.043%	1.2% [a/]
Loss Rate	0.008% to 0.029% [c/]	1.49% [b/]
Average Tenor	~90 days	1-3 years
Diversification	Diversified – average US$ 454K transactions size	Less diversified; large corporate focus

Source: [a/] Moody's Report, 2013 Q1; [b/] Moody's Report 2011; [c/] 2008-2011; ICC Trade Register (2013 and (2014) as cited in ICC Rethinking Trade and Finance (2014), and Standard Chartered Bank (2013)

In response to dialogues with trade finance stakeholders and data-based illustration of the low risk profile of trade finance[64], the Basel Committee has revised some rules applicable to trade finance products. The rules change are technical and mostly impact on either the calculation of risk weights for trade finance products for capital or leverage ratio calculation, or the application of outflow or

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rupture in the global banking correspondent bank network is leaving some economies with absolutely no access to international finance. Foreign workers have to pay more for sending money home because banks have found it too expensive to do a KYC check on small local remittance firms and have cut banking relationships. As *The Economist* (footnote above) points out: "This can, in turn exacerbate poverty and exclusion that fuel terrorism and crime these rules were designed to prevent" in the first place.

[63] ICC (2014).

[64] See, for example, the ADB/ICC Trade Register

inflow rates on trade finance products for the purpose of liquidity ratio calculation. These changes are summarized in Table 9 and discussed in more detail elsewhere[65].

While progress has been achieved in lowering bank cost for trade finance under revised Basel 3 regulations, experts argue that a few issues remain to be resolved. First, the regulatory divergence across jurisdictions in the application of Basel rules can lead to regulatory arbitrage and competitive disadvantages. For example, compared to Basel rules which put the Credit Conversion Factor (CCF)[66] (for leverage ratio computation) for trade-related guarantees such as Performance Guarantee[67] or standby Letters of Credit at 50%, the European Union put the CCF for these products at 20%. Without going to the technical details, such difference in the CCF implies lower capital cost in the EU than elsewhere. Similarly, different economies have different inflow and outflow rates for trade finance. For example, money due from trade financing activities with a residual maturity of up to 30 days have an assumed inflow rate of 50% although the Basel Committee on Banking Supervision (BCBS) also allows 100% inflows. This implies that in economies that would allow full inflows, banks have lower liquidity cost. Likewise, the outflow rate for all trade allowed by BCBS can range from 0 to 5%. Economies that put the outflow rate at 0% provide more advantage to their banks. Thus, a uniform treatment of 100% inflow rate and 0% outflow rate for trade finance products for Liquidity Coverage Ratio (LCR) computation will help lessen the capital cost of trade-related short-term financing across the world without introducing competitive disadvantages.

Table 9. Summary of revised Basel 3 regulations impacting trade finance

Basel III Ratios	Change in rules which affect trade finance	Effect on trade finance
Risk weighted capital adequacy ratio : equity over risk-weighted assets ≥ 9%	Waiver of one-year maturity floor for self-liquidating trade finance instruments (e.g. L/Cs) with maturity of less than a year (October 2011); Previously, banks required to hold capital as if trade finance transactions were for 1-year period.	Estimated to reduce capital charge on a trade finance facility from 2.9% to 2.6%; National regulators have discretion to apply exemption to all trade transactions not only to L/Cs
	Waiving of the sovereign floor for self-liquidating trade finance instruments (October 2011); Previously, risk weight cannot fall below that applied to claims on the economy where bank is based	Lessen risk associated with trade finance instruments and hence lower capital charge requirement.

[65] See, for example Wandhöfer (2012) and ICC (2014).

[66] Credit Conversion Factor reflects the likelihood of an off-balance sheet position becoming an on-balance sheet item.

[67] A performance guarantee is an agreement between, say, a supplier and buyer for the former to perform all of their obligations under the contract and usually includes a clause to protect the buyer against losses incurred in case of non-performance by the supplier.

Leverage Ratio (LR)[68]	Reduction of credit conversion factor (CCF) from 100% CCF (applied to all exposures) to 20% CCF for self-liquidating trade letters of credit and 50% CCF for Guarantees (January 2014)	Potential lowering of denominator value in the definition of LR; lower capital charge requirement for trade finance assets
Liquidity Coverage Ratio (LCR)[69]	Inflow rate for maturing trade finance transactions increased from 50% to 100%; Run-off (outflow) rate for trade finance-related contingent facilities is capped at 5%. Previously, national regulators had full discretion on inflow/outflow rates (January 2014)	Lessen need for liquid assets to cover less risky trade finance instruments; National regulators have discretion to put outflow rate between 0-5%;
Net Stable Funding Ratio[70]	Short term lending to SMEs given a reduced required stable funding (RSF) factor from 85% to 50% (same as corporates)	Impact on receivables finance or supply chain finance which are widely used for SMEs.

Source: Author's compilation.

Another issue is the introduction of asset value correlation (AVC) adjustments starting January 2014 which, in practice, means imposing a 1.25 multiplier for exposures to large financial institution[71] and unregulated financial institutions. Banks argue that this has an unintended consequence for trade and export finance because bank-to-bank exposure is common in trade financing, for example in the issuance and confirmation of L/Cs or even in high-value syndicated structured commodity trade finance. It is also common for banks to work with insurance companies for trade insurance or guarantees or with factoring companies or with hedge funds for securitized trade loans. These exposures will imply higher capital charge and increase cost which the banks would eventually pass

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[68] Leverage ratio = tier 1 capital / exposure measure. Exposure measure is the sum of all on-balance sheet assets excluding on-balance sheet derivative and securities financing transactions, derivative exposures, securities financing transaction, other off-balance sheet exposures (including commitments, direct credit substitutes, acceptances, standby letters of credit, trade letters of credit, failed transactions, unsettled securities) (Auboin and Blengini (2014)). In simple words, the leverage ratio is the share of bank's capital to the bank's balance sheet and the Basel 3 requirement is for this share not to go below 3%.

[69] LCR = stock of high quality liquid assets / total net cash outflow over next 30 calendar days. This seeks to balance the cash inflows and outflows. The idea is to have sufficient liquidity buffer to withstand liquidity stress for a month during which time, governments have time to respond and restore peace in the financial markets. This ratio has to be greater than 60% starting January 1, 2015 and increasing by 10% each year until it reaches 100% in 2019.

[70] NSFR = available amount of stable funding/required amount of stable funding. This ratio concerns long-term liquidity.

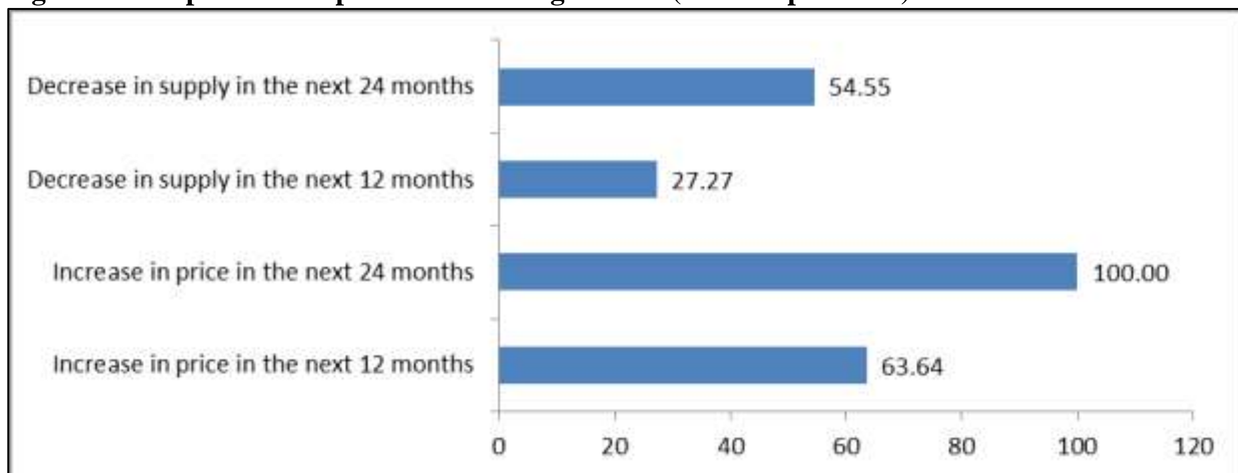
[71] With at least US$25 billion assets and other unregulated entities such as hedge funds and financial guarantors

on to clients. A lower asset value correlation for trade finance would help bring down trade financing cost.

The downside in making adjustments for trade finance is that it introduces complications in the computation of the Basel 3 ratios. Thus, the question is whether the value it adds compensates for the complications it introduces. The answer depends on the objectives of the Basel 3 regulations: that is, to ensure adequate capital and liquidity that are commensurate with bank risks. If the evidence shows that trade finance instruments are low risk financing instruments, then requiring high capital and liquidity cover for such transactions penalizes a financing instrument that supports trade and the real economy.

How does the market perceive the impact of Basel 3 regulations to be? The impact of Basel 3 implementation is expected to increase price of trade finance products in the long term. Figure 17 shows the response to the question of whether they foresee changes in price and supply of trade finance in 12 months or in 24 months. The response bears out the fact that, so far, trade finance cost has not increased. But if the survey is to be believed, the effect of regulations will have its effect in the medium- and long-term, starting next year.

Figure 18. Response on impact of Basel 3 regulations (% of respondents).



Source: Author's computation based on data from PSU-APFF-ABA Survey.

c. Regulations on cross-border data flows

Supply chain finance, as discussed above, is highly reliant on electronic platform which provides the real-time transparency of both the physical and financial flows. This platform, however, relies in turn on data and information on the buyer as well as suppliers and the different transactions that take place in the supply chain. This platform may be hosted in the funding institution's economy or elsewhere in the world. Likewise, the data on accounts receivables might be stored in the 'cloud' which makes it easy for any supplier, corporate or SMEs, anywhere in the world to access its own information as well as the supply chain's financial flow. This business model, therefore, cannot thrive where the jurisdiction imposes very strict restrictions on cross-border data flows[72]. This section briefly discusses the use of data in business in general and financial services, in particular; the most common forms of restrictions on the free flow of information across borders that have the greatest commercial relevance, and potential role for APEC to address this important issue.

Table 10 shows the examples of different type of data and why data are transferred. Some data are personal and therefore sensitive, while others are not. However, it has become more difficult to distinguish one from the other. For example, modern techniques can often enable data relating to

[72] For example, some economies restrict the transfer of data of its citizens abroad.

visited websites to be linked back to an identifiable person (Kommerskollegium, 2014); thus it is hard to identify where the demarcation line between personal and non-personal should be. Through the internet, these information (as well as many more) get to be transferred across borders and, in fact, have become an intrinsic part of many businesses' daily operations, particularly so if they deal with international trade in either goods or services. Trade is inconceivable without data being transferred in some part of the transaction. If physical supply chains, to function properly, need efficient flows of information, even more so, financial supply chains require real-time information, both personal and otherwise. It needs data to identify customers, both those that are creditworthy and those that are not; it needs data to determine when the transactions had actually taken place and when the financing of receivables can be done; it needs data to innovate on other possible financial instruments that can help customers and SME suppliers. Financial services also make use of credit bureaus to manage and underwrite risks but credit bureaus need personal information that could be combined, processed and analyzed.

Table 10. Examples of data transferred over the internet

Type of data	Examples of data	Some reasons for data transfer
Corporate data	Data about the company, including financial data, aggregated numbers about employees, corporate directors, website	To coordinate between different parts of company; To sell goods and services
End-customer data (business-to-consumers (B2C))	Data about private people, including name, address, bank account, credit reports, phone number, and localization of phone	To sell goods and services; For enabling outsourcing; To provide customer support 24/7
Human resources data	Data about employees, including names, email addresses, salaries, competencies	To coordinate between different parts of the company; To match skills
Merchant data (B2B)	Data about companies, including address, contact person, customer registry, web-site and financial transaction data	To sell goods and services; For developing new products; To provide support 24/7
Technical data	Data about products, services and technical solutions, including its operation	To sell; To upgrade software; To monitor running of the product; For developing new products; Customer support

Source: Combined Tables 1 and 3 in Kommerskollegium (2014)

Efforts to prevent data from leaving national borders are motivated by various reasons. One popular reason is to protect citizens' data from foreign surveillance, a concern which came to the fore after the Snowden revelation of electronic spying. Another is to protect personal data privacy and data security. Still another issue around data relates to the extraterritorial application of laws, which explains why certain businesses do not want to base their data centers (or transmit data) through the USA. Governments also think that by keeping data within national borders, a good number of new jobs would be generated. Regulations on cross-border data flows take a variety of forms. Some governments require prior consent for data transfers abroad, others require local servers to be established within the territory, others are outright ban of personal citizens' information flow out of the economy, others require copies of information sent abroad to be stored domestically.

The economic argument of creating jobs through data localization requirement such as mandating local server establishment does not, arguably, hold water[73]. First, because putting up data servers is too expensive, foreign businesses could just opt not to invest in the market, particularly in small economy market. Hence, instead of generating new jobs, this form of localization requirement instead scares away investments. Second, data servers do not really require a lot of employees; rather energy is what they consume a lot of. Requiring companies to establish data servers will also increase a developing economy's capital imports and worsen its balance of payment deficit because most of the data server suppliers are from USA and other developed economies. Third, they prevent the development of entrepreneurial start-ups especially in digital applications who need the advanced applications from all over the world that run on the back of advanced and sophisticated servers.

The objective of security and privacy of data, however, are the ones that merit careful consideration because it is close to the heart of what the general population perceives the government should protect. Rightly, many governments have privacy protection laws that respect the use of personal data, often requiring prior consent from concerned individuals in the use of personal information whether domestic or abroad. The more critical issue, however, is the requirement to store data locally by requiring data servers to remain within the border or the outright ban on data transfer abroad[74]. Ironically, such localization requirement may actually undermine the economy's privacy protection and security objectives. First, by localizing data storage, the economy is unable to take advantage of the distributed infrastructure of cloud technology where information are distributed across multiple servers in different locations which help prevent the re-identification of the individual. Putting information in one place, as data localization requirement attempts to do, makes data even more vulnerable to hackers. It is also doubtful whether the protected local data server provider has stronger security infrastructure and capacities than global companies. Another problem with banning cross-border transfer of citizens' data, is that it does not always make clear distinction – presumably because it is difficult to implement in practice – between the different types of data, between personal data which needs some valid protection and other technical product data. Since data is also increasingly linked to payment transactions and financial flows, strict data flow restrictions would not only make platform-based supply chain finance impossible; it also renders any trade at all that uses the internet virtually undoable.

[73] The foregoing arguments are summarized from Chander and Le (2014) where there are detailed discussions of the various arguments for and against data localization.

[74] Other data transfer restrictions mandate keeping a copy of data sent abroad in the domestic economy. Particularly for financial services, this restriction is deemed by some economies to be necessary for the prudential regulation of the banking system because it, allegedly, provides supervisory authorities immediate access to financial information to enable them to formulate an appropriate response, especially in times of financial crisis. It is also a way of protecting data in case it gets destroyed due to some fortuitous events. This restriction does not prohibit crossborder transfer of data, per se, but is a variant of localization requirement.

IV. CONCLUSION

The paper discussed supply chain finance as interpreted in two different, but somewhat related, ways. Supply chain finance can be understood as structured trade financing which ensures that the financial institution's risk throughout the supply chain - from the factory to transport to warehouse to shipping and all the way to the buyer - are covered and mitigated. It argued that this form of financing can be used more widely to help fund SMEs because the transactions financing and structuring relies more on the asset that is exported rather than on balance sheets, which many SMEs are weak in. But for this to happen, many economies in APEC need reforms in its legal and regulatory framework especially to facilitate financing for movable assets. These reforms include: 1) Development of laws that facilitate asset based lending based on international best practice such as the UNCITRAL Model Law where the scope of assets considered as collateral are expanded to include, for example, accounts receivables, invoice, or warehouse receipts; 2) Establishment of clear priority on secured transactions; 3) Development of centralized electronic collateral registry which makes security interests transparent and prevents multiple and competing claims for priority over the same asset; 4) Improving enforcement and insolvency resolutions; and 5) Strengthening the capacity of collateral management companies in APEC and developing the appropriate regulatory framework including possible licensing and regulation of collateral management companies. APEC economies would also benefit if accession to international conventions that facilitate enforcement of secured transactions such as the Choice of Court Convention are given serious consideration.

Supply chain finance can also be understood as a specific financing vehicle to support buyer-seller supply chain whereby sellers (suppliers), especially SMEs, are able to obtain cheaper financing on the back of the creditworthiness of the buyer, usually large corporates or MNCs. The need for improved legal and regulatory framework for asset based lending remains important even in this understanding of supply chain finance, especially because financial institutions provide supplier financing, mostly through purchase of account receivables, or extend credit lines based on the suppliers' accounts receivables from highly rated companies. This form of supply chain finance helps improve buyer-seller relationship and, by ensuring that suppliers have access to funding, it also stabilizes the buyers' own supply chain. Supply chain finance has experienced rapid growth but for a wider adoption, attention should be directed to various regulatory issues that are hampering supply chain finance. The paper discussed these challenges.

The paper notes the adjustments to Basel 3 regulations on account of the low risk profile of trade financing but cautions about the potential adverse impact of regulatory arbitrage on competitiveness due to uneven implementation of Basel rules across economies. Other major challenges to trade and supply chain financing pertain to difficulties of onboarding suppliers in the supply chain finance platform due to stringent Know-Your-Customer (KYC) and CDD rules. At a minimum, the paper suggests a central database in each economy where KYC-relevant company information are stored and accessed by financial institutions to ease the burden of executing KYC/CDD. This will prevent or minimize financial exclusion that is resulting from the overcautious stance of FIs due to concern over financial crimes and heavy penalties. Another important inhibitor to the growth of supply chain finance is the growing discussions on prohibition of transferring data cross-border. The paper cautions about the cross-border data transfer restriction which could prevent the adoption and implementation of new innovative instruments like supply chain finance. Cross-border data transfer regulation is the new non-tariff measure that will challenge the trade community in the foreseeable future.

BIBLIOGRAPHY

Alvarez de la Campa, Alejandro, Santiago Croci Downes, and Betina Tirelli Hennig. *Making Security Interests Public: Registration Mechanisms in 35 Jurisdictions*. Washington: World Bank, April 2012. http://www.ifc.org/wps/wcm/connect/fbef87804c2ab1dda285eaf12db12449/Registry+survey+report.pdf?MOD=AJPERES.

Alvarez de la Campa, A., "Increasing Access to Credit through Reforming Secured Transactions in the MENA Region," *World Bank Policy Research Working Paper*, no. 5613 (March 2011). http://elibrary.worldbank.org/doi/pdf/10.1596/1813-9450-5613.

APEC Policy Support Unit. *APEC's Ease of Doing Business – Interim Assessment 2009-2013*. Singapore: APEC PSU, 2014.

Asian Development Bank. *Secured Transactions Law Reform in Asia: Unleashing the Potential of Collateral.* Manila: ADB, 2000.

Auboin, M. and Engemann, M., "Trade Finance in Periods of Crisis: What Have We Learned in Recent Years?," *World Trade Organization Staff Working Paper*, ERSD-2013-01 (January 2013). http://www.wto.org/english/res_e/reser_e/ersd201301_e.pdf.

Auboin, M. and Blengini, I., "The Impact of Basel III on Trade Finance: The Potential Unintended Consequences of the Leverage Ratio," *World Trade Organization Staff Working Paper*, ERSD-2014-02 (January 2014). http://www.wto.org/english/res_e/reser_e/ersd201402_e.pdf.

Bernasconi, C., "Introduction to the Service, Evidence, and Choice of Court Conventions," Presentation at the APEC Workshop on Ease of Doing Business Through Hague Conventions, Beijing, 12 August 2014.

Bank for International Settlements, "Trade Finance: Developments and Issues,". *Committee on Global Financial System Papers,* no. 50 (January 2014).

Cenzon, Bernadette. *Supply Chain Finance: Background Paper*. Singapore: APEC PSU, Unpublished.

Chander, A. and Le, U.P., "Breaking the Web: Localization vs. the Global Internet," UC Davis Legal Studies Research Paper, no. 378 (April 2014). http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2407858.

Euromoney. "Connecting The Value Chain." In *Insights on Transforming the Treasury*, edited by Philip Ayers, 25-28. London: Euromoney, September 2012. Accessed August 10, 2014. http://www.euromoney.com/downloads/guides/RBS-Treasury-Guide-2012.pdf.

International Chamber of Commerce (ICC). *Rethinking Trade and Finance 2013*. Paris: ICC, 2013. http://www.iccwbo.org/Products-and-Services/Trade-facilitation/ICC-Global-Survey-on-Trade-Finance/.

International Chamber of Commerce (ICC). *Rethinking Trade and Finance 2014*. Paris: ICC, 2014. http://www.iccwbo.org/Products-and-Services/Trade-facilitation/ICC-Global-Survey-on-Trade-Finance/.

International Monetary Fund Direction of Trade Statistics (IMF DOTS). Accessed May 12, 2014. http://elibrary-data.imf.org/DataExplorer.aspx.

J.P. Morgan. *Enabling Growth in an Uncertain Recovery – How Companies Chart a Path to Growth with Supply Chain Finance*, New York: J.P. Morgan, 2013. Accessed June 10, 2014. https://www.jpmorgan.com/cm/BlobServer/Enabling_Growth_in_Uncertain_Recovery_2013.pdf?blobkey=id&blobwhere=1320603654623&blobheader=application/pdf&blobheadername1=Cache-Control&blobheadervalue1=private&blobcol=urldata&blobtable=MungoBlobs.

Kommerskollegium. *No Transfer, No Trade – The Importance of Cross-Border Data Transfers for Companies Based in Sweden*. Stockholm: Kommerskollegium, January 2014. http://www.kommers.se/Documents/In_English/Publications/PDF/No_Transfer_No_Trade.pdf.

PricewaterhouseCoopers (PWC). *Demystifying Supply Chain Finance – Insights into the What, Why, How, Where and Who*. New York: PWC, 2009. http://www.pwc.com/en_US/us/issues/surviving-the-financial-downturn/assets/supply_chain_finance.pdf.

Standard Chartered Bank, "International Regulation and Treatment of Trade Finance," Presentation at the APEC Workshop on Trade Finance, Lombok, 1 July 2013.

Wandhofer, R. *Trade Finance – Protecting the Engine of Global Growth.* London and New York: Citibank, October 2012. http://www.citibank.com/transactionservices/home/corporations/docs/tf_protecting_engine.pdf.

World Bank. *Doing Business.* Washington: The World Bank and the International Finance Corporation, various years. http://www.doingbusiness.org/.

World Bank Enterprise Surveys. Accessed April 15, 2014. http://www.enterprisesurveys.org/Data.