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Fintechs and the Financial Side of Global Value Chains—The Changing Trade-Financing Environment

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Fintechs and the Financial Side of Global Value Chains—
The changing trade-financing environment [1]

Summary:

Trade finance contributes significantly to the growth of international trade—with about 80-90 percent of trade relying on it (WTO 2016). Over the past decades, trade in intermediate goods, with a high level of reliance on trade finance, has grown rapidly. Periods of stress and disruptions of trade finance during the Global Financial Crisis posed systemic risks to world trade leading the March 2009 G-20 summit to commit $250 billion to support trade finance, noting that "…*the lack of a comprehensive international dataset for trade finance during the crisis has been a significant and avoidable hurdle for policy-makers to make informed, timely decisions. […] It is recommended that multilateral agencies coordinate and establish a comprehensive and regular collection of trade credit in a systematic fashion."*[2] The need for enhancing trade finance as part of the strategy for growth to help address the global trade slowdown was also explicitly referred to in the G20 trade ministers' meeting in Shanghai on July 10, 2016.[3]

Supply chains have become much more fragmented and dispersed with longer and wider-growing networks of small- and medium-sized upstream and downstream enterprises (SMEs) around the world. In a changing environment where larger companies have increasingly transitioned from pure manufacturers to coordinators of complex webs of third party suppliers, producers, and distributers of their products and brands, the management of 'working capital' has been brought to the forefront of attention.

This discussion of trade finance is outside of vertical and horizontal[4] global sourcing strategies of MNEs and focusses on supply chain financing issues in at arm's length relationships.[5] SMEs within the boundary of FDI relationships are less credit constrained

[1] Prepared by Cornelia L. Hammer, Real Sector Division (RE), with gratefully acknowledged comments from Claudia Dziobek (RE), Rob Dippelsman (RE), Louis Venter (RE), and Angsupalee Wacharakiat Balance of Payments Division (BP).

[2] http://www.g20india.gov.in/pdfs/August2010_G20_Trade_Finance_Experts_group.pdf

[3] G20 Trade Ministers Meeting Statement, 9-10 July, 2016. https://www.wto.org/english/news_e/news16_e/dgra_09jul16_e.pdf

[4] Horizontal FDI is related to "locate production near customers thereby obtaining critical market knowledge," while vertical FDI takes advantages of factor savings and facilitates access to specialized knowledge and technologies." Access to intra-firm financing may encourage companies to locate production abroad in locations with financially vulnerable sectors.

[5] The strategy of "offshoring outsourcing" – the transfer of activities and processes to unaffiliated parties – is described in the literature as an outsourcing revolution. Companies are turning fixed into variable costs towards more broadly leveraging external resources, skills, and knowledge, and gaining operational flexibility in highly competitive environments. See also "Journal of Studies on Manufacturing (Vol.1-2010/Iss.1), Jain et al. / Supply Chain Management: Literature Review. See also: IMF Working Paper WP/16/207 The Role of Newly Industrialized Economies in Global Value Chains; Dominik Boddin.

than their independent peers, because they can use internal capital markets, where much of this trade is financed through intra company netting and internal funding, including access to retained earnings, or commercial papers. Whether the parent company finances the subsidiary via equity or debt is, to a large extent, influenced by corporate taxation rules in the parent and the subsidiary economy. Many larger firms are also able to set up in-house banks to finance various subsidiary trading. SMEs at arm's length however, are the most vulnerable to unmet demand for liquidity from their buyers or financial intermediaries, while at the same time they account for some 95 percent of all companies[6] and are a key component of today's fragmented supply chains.

Structural changes to the trade finance market occurred during the last decade: *Fintechs*—Financial technology companies— have been established and become successful in segments traditionally occupied by banks; and alternative trade finance solutions, such as *supply-chain financing* (*SCF*), have emerged.

Estimates on global trade finance are scarce and very divergent. Estimates by the WTO (for 2009) suggest that the global trade finance market (including credit insurance) is about 80 percent of global merchandise trade. For 2015, this would roughly be $17 trillion in trade finance flows, with an estimated outstanding stock amount of $6 trillion (assuming an average duration till maturity of 4 months). The estimated outstanding stock of other investment trade credits[7], based on BOPSY for 2015, is about $1.14 trillion.

To keep informed and "ensure that external sector statistics mirror global realities and maintain policy relevance,"[8] a stepping-up of trade finance statistics is needed as current statistical frameworks do not adequately capture the trade finance market. Trade finance instruments currently included in macroeconomic statistics are spread over different functional categories, are combined with other instruments, and often only proxied or imputed in data compilation. No separate breakdown is available on third party supply chain financing, and current data do not capture the great variety of traditional and new SCF instruments. A stand-alone, exclusive (satellite) trade finance dataset to support informed and timely policy decisions may be needed to respond to the call by policy makers, and existing statistical frameworks beyond the international accounts will need to be updated to reflect (new) types of trade finance instruments and providers.

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[6] According to the WB, around 95 percent of world-wide existing businesses are SMEs.

[7] Trade credits refer to open account transaction, where usually the goods are shipped and delivered before payment is due, which is usually in 30 to 90 days, and often extended to 120 days (Trade Finance Guide, U.S. Department of Commerce).

[8] https://www.imf.org/en/Publications/Balance-of-Payments-Statistics/Issues/2017/03/03/IMF-Committee-on-Balance-of-Payments-Statistics-Annual-Report-2016-44709

The IMF is currently drafting a chapter on the financial side of global value chains for the Handbook on Accounting for Global Value Chains by the UN Expert Group on International Trade and Economic Globalization Statistics (EG-ITEGS) that will address this topic. The Handbook chapter will include views expressed on this topic by BOPCOM (during the October 2017 Meeting) and the AEG (during the December 2017 meeting).

I. MOTIVATION

The trade-financing market and relevance for (IMF) surveillance

1. **The reduction of world trade in the 2008–2009 financial crisis was closely linked to breakdowns in traditional trade finance and related disruptions in global supply chains' finance.** The crisis affected the cost, volumes, and modalities of trade finance and led to adverse feedback loops between the financial system and the real economy (IMF 2009). Global Value Chains (GVCs) have become dominant features of world trade as traditional supply chains have evolved into complex, interconnected, multi-layered networks of suppliers, buyers, service providers, and customers. The integration of the physical and the financial supply chains into GVCs have changed the dynamics of financial stability and thus call for special recognition in surveillance. Macroeconomic effects could include bankruptcies, layoffs, and contraction of trade.[9]

2. **Financial disruptions at the level of a supplier can have ripple effects throughout the entire value chain.** Upstream companies are vulnerable to the risks and resilience of small and medium-sized companies (SMEs) in their supply chains, as critical product **components** are often sourced from SMEs abroad.[10] The financial decision of an upstream company will impact directly and indirectly the financial situation and the performance of downstream suppliers and possibly suppliers' suppliers in arm's length relationships. This can easily affect the supply chain as a whole with adverse consequences for individual links. Constraints on cash flow affect investment and growth. In the event of another financial shock, trade financing for SMEs, especially in emerging markets, would almost certainly be a major victim.[11]

3. **The global crisis of 2008 created an acute need for a better system to serve global supply chains—new institutions, such as Fintechs, and supply chain finance (SCF) instruments aim to provide this.** Fintechs entered this market segment with digital

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[9] Some companies, including BMW, BASF, and HP, provided unprecedented financial support to suppliers during and after the 2008 crisis in order not to destabilize their supply chain. See Dr. Yossi Sheffi, MIT 2017, Lessons from a Crisis.

The UN officially recognized the US$1.6 trillion shortfall in trade finance globally that has grown since the peak of the 2009 financial crisis.

[10] According to the WB and the ICC, a globally estimated 95 percent of world-wide existing businesses are SMEs.

[11] Trade finance and regulation: Llewellyn study (2016)

interfaces, electronic invoice systems, fewer regulatory obstacles, and less risk aversion to challenge traditional trade finance providers. In an SCF program, buyers, suppliers, and third-party finance providers connect on digital supply chain finance platforms where buyers counterbalance an extension of their invoice due dates by using their creditworthiness to allow designated suppliers to trade the full value of their receivables (minus a fee) with funders participating in the program for immediate payment.

4. **For surveillance, better data are needed to track and examine the evolution of the trade finance market, and evaluate ongoing market dynamics**. There are no readily available data covering the trade finance exposures of banks or other financial intermediates. Experiences with the crisis of 2008—when trade finance disruptions had a significant role in the sharp reduction in global trade volumes[12]—call for more information to allow policymakers to assess possible disruptions in the trade finance market in a timely manner. Stability analysis will also extend to the new market entrants, the use of securitization markets to raise trade finance capital, and increased competition in the supply chain market for price and market shares. For example, Fintechs could possibly qualify as (money-creating) depository corporations,[13] funding themselves with short-term loans and providing loans to goods suppliers. Further insight into third-party financing would be useful to monitor not only the role and impact of new players, but also the extent to which these companies themselves could become the origins for disruptions in the supply chain market.

II. THE CHANGING TRADE FINANCE ENVIRONMENT

Fintechs – new players in the trade finance market

5. **Fintechs are non-bank institutions that use advanced technologies to perform traditional banking activities.**[14] Increased regulations for banks have made it less attractive for them to do business in certain jurisdictions with stricter compliance rules regarding transparency, consumer protection, and capital requirements.[15] Providing financial support to SMEs, especially in developing countries, requires more demanding risk-assessment and

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[12] BIS 2014 Committee on the Global Financial System (CGFS) Paper on Trade Finance: Developments and Issues.

[13] For instance, the US Office of the Comptroller of Currency (OCC) announced on December 2, 2016, that it is proceeding with its proposal to allow fintech companies to become charted as special-purpose national banks.

[14] Businessinsider.com/BI Business Intelligence, December 2016: Global fintech funding continues to grow. Worldwide funding flows reached $19 billion in total in 2015, and $15 billion by mid-August 2016. The U.S., Europe, and the Asia-Pacific (APAC) region led the way in attracting the most fintech investment. Last year, China overtook the U.S. as the top destination for fintech investment. Singapore alone has more than 100 fintech startups (Bloomberg, Jan 2017).

[15] Regulatory requirements include the Anti-Money-Laundering (AML), the know-your-customer (KYC) and know-your-customer's-customer (KYCC) requirements making it less attractive in certain jurisdictions to do business. In the International Chamber of Commerce's (ICC) 2016 trade survey, 90 percent of respondents said that the complexity of compliance was the chief barrier to the provision of trade finance. (https://iccwbo.org/publication/icc-global-survey-trade-finance-2016/).

evaluation models that banks are not necessarily willing or able to adopt.[16] And while banks have offered different forms of trade finance for a long time, banks' existing handling systems have been perceived as time-consuming and expensive by significant parts of the trade-financing market.

6. **Fintechs use big data and leading-edge cloud-based technology to offer old products in a new appearance,** as well as new services in trade finance, marketplace lenders, micro-lending, and "robo-investment platforms." [17] Most of these startups have not yet been subject to the same regulatory scrutiny and constraints as conventional banks. Regulators are in early stages to catch up with these developments.

7. **"Fintegration" is a term that market observers use to describe a win-win scenario for both Fintechs and banks.** With banks integrating the Fintech innovations into their portfolio, and Fintechs getting access to banks' established customer relationships, risk management expertise, and funding, there is anticipation for mutual benefits. Other Fintechs may find solutions independent of banks. SCF solutions have increased in popularity with Fintechs typically tending to focus on the "long-tail," that is, mid-tier, and non-listed companies' markets of SMEs, while the bigger banks focus on the "short-tail" market of established customers and large multinational companies.[18] In a global value chain, these segments cannot be separated. The International Chamber of Commerce (ICC) noted in its Global Survey on Trade Finance 2017 [19] report, that "Fintechs now count major financial institutions among their shareholders, thus effectively turning those Fintechs into an asset rather than a competitive threat."

8. **Blockchain is another "emerging game changer," [20] where banks see technology transform their trade finance processes.[21]** Blockchain is set to address the cost efficiency and transparency challenges that banks meet in the SME segment.[22] In a nutshell, Blockchain is a digital ledger of trade related financial transactions traceable in real time

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[16] WTO report lists "creditworthiness" of SMEs in Africa as the main reasons for the rejection of L/Cs.

[17] The Report "The Future of FinTech: A Paradigm Shift in Small Business Finance", presented at the World Economic Forum 2015, makes a clear case for Fintechs: "Innovation, through what has been called FinTech, is already disrupting the ways financial services are being offered, promising to provide access to underserved markets in new ways."

[18] The Harvard Business Review notes, however, that also large companies like Apple, Dell, and P&G are using FinTech companies to gain access to funds within their supply chains, "using the capital to better their businesses". See also: www.gtreview.com.

[19] https://iccwbo.org/publication/2017-rethinking-trade-finance/

[20] For instance: www.supplychain247.com/article/why_blockchain_is_a_game_changer_for_the_supply_chain

[21] FT June 26, 2017: Seven of Europe's largest banks have hired IBM to shift trade finance to blockchain technology for crossborder small business financing of orders. IBM also partnered with companies in China and India.

[22] According to a PwC survey, 77 percent of their respondents expect blockchain to be in production systems as soon as 2020.

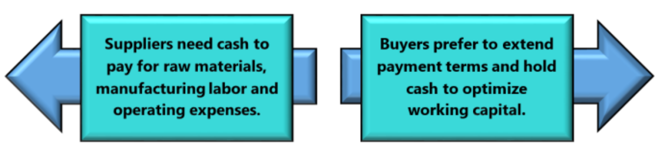
which is shared among participants with access rights. While traditional trade finance requires each participant to maintain their own administration in their own databases, Blockchain integrates all the necessary information in one digital document. Payments made via this digital system can be monitored by both parties, and the bank can see both the original contract as well as the order placed between companies and can verify both authenticity and state of fulfilment at any given time.

Traditional Trade Finance Instruments and Open Account Trading

9. **Trade finance instruments are an important tool for companies to manage their working capital.** In the context of understanding new supply chain financing instruments, the focus on optimizing the volume of working capital is most relevant (see Box). Working capital is the oil in supply chain financing, and working capital management decisions have implications on supply chain business partners upstream and downstream within the network.[23]

Box 1: Working Capital is the Basis for Trade Financing

The working capital ratio (current assets/current liabilities) indicates whether a company has enough short-term assets to cover its short-term debt. Balanced cash management in a business is essential because insufficient cash and no alternative funding means there are not enough funds to meet obligations such as buying raw materials or paying wages and overheads. Too much cash, on the other hand, means a company has idle funds for which it foregoes investment. Holding too much inventory has implications for the financial performance of a business in the form of costs for storage, handling, insurance, etc., and cash tied up that could be used otherwise. The right balance is a trade-off between liquidity versus profitability. Suppliers need to get paid as early as possible, while buyers want to pay as late as possible. When the cash collection of suppliers slows down, suppliers have limited practical alternatives. They can extend the credit line or take out short-term debt with their local bank; they can use the accounts receivable as collateral to raise cash; or extend their payables. Depending on the size, location, and credit-worthiness of the suppliers, only limited options may be available. —if alternative financing is not feasible, they may need to slow down their business.



The underlying friction between suppliers' and buyers' objectives was severely magnified during the 2008 financial crisis.

[23] See: Dr. Yossi Sheffi, MIT 2017, Lessons from a Crisis, Building Strength from Supply Chain Interdependence: "As the global economy remains prone to bullwhips and domino effect disruptions affecting both financial and physical supply chains […] makes management of working capital across the supply chain as important today as in 2008.

10. **Traditional trade finance such as Letters of Credits[24] and other short-term pre-shipment trade loans have been used for hundreds of years and have typically been an area covered by banks** as intermediator between the exporter (supplier) and the importer (buyer). From the perspective of the supplier, a weakness of L/Cs financing is the very advanced point in time in the transaction cycle by which financing is received, stretching the time between the buyers initiated purchase order to the approved invoice. This can operationally be critical to suppliers depending on the length and complexity of the production cycle and the involvement of sub-suppliers and sub-contractors. The principal alternative to traditional bank trade finance is inter-firm financing directly between buyers and suppliers which is commonly referred to as open account trading (also 'trade credits/advances' in SNA terminology).

11. **Open account trading has become the prevalent form of trade finance and the main starting point for new supply chain financing products.** Although there is no comprehensive source for measuring the size and composition of the trade finance market, the few estimates that exist[25] evaluate the size of bank-guaranteed trade finance to account for ten to thirty percent, while the remainder (70 to 90 percent) is organized by inter-firm trade credits through open account trading. In open account trading, the buyer is directly responsible for meeting the payment obligation in relation to the underlying transaction.

12. **In open account trading, suppliers ship goods and documents directly to the buyer before payment is due,** making open account trading the buyers' most attractive option. Buyers typically may take 30, 60, or up to 90 days to settle the invoice. At the same time, it is the least secure option for suppliers who bear the non-payment risk and potentially a shortage in working capital. While this form of financing was once only practiced among companies with long-term and well-established commercial relationships, and for trade in or with low-risk markets, increasing competition, combined with at times rationed supply of bank-intermediated trade finance, have made companies of all sizes pursue open account trading as alternatives to traditional instruments.

13. **Open account trading can magnify the inherent problem of opposing interests that buyers and suppliers have regarding cash flow management.** Buyers' interest to maintain cash reserves for any possible economic situation frequently forces downstream suppliers to extend payment terms up to in some cases 120 days, or pass on early payments discounts to cash-rich buyers. Suppliers, often SMEs, in turn, need to take out costly loans or

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[24] L/Cs are predominantly *buyer-centric* instruments, where the bank of the buyer provides a guarantee to the seller that it will be paid regardless of whether the buyer ultimately fails to pay. The risk that the buyer will fail to pay is hence transferred from the seller to the letter of credit's issuer. Because of the risk-taking, and because L/Cs are processed predominantly manually, and often still paper-based, they constitute a rather costly, complex, and very labor-intense financial service.

[25] SWIFT, BIS (2014); International Chamber of Commerce (ICC) (2013)

export credit insurance provided by public export credit agencies[26] or private insurance firms to bridge the gap or cover the risk. Or eligible exporters can buy products offered by banks that provide bilateral working capital financing, such as pre-export finance, supplier credits, receivables discounting, or forfaiting. However, often rejected trade finance requests from especially SMEs, and the global financial and economic crisis, exposed an incomplete trade finance market with demand exceeding supply, alarming new businesses, market observants and political leaders.[27]

New Supply Chain Financing (SCF) Solutions

14. **SCF solutions bring the financial intermediary back into the equation.** SCF providers[28] try to overcome the buyers'/suppliers' friction of liquidity by providing an integrated technology platform – an SCF portal- that makes it possible to *extend payment terms to buyers while accelerating payment to suppliers*. Visibility of underlying trade flows by the supply chain provider is a necessary component of such financing arrangements which can be enabled by the platform. Further down the road, the market expects that the Internet of Things (IoT) may even allow real-time tracking of goods. Sophisticated programs are connected with multi-funding sources to deal with multiple currencies and jurisdictions as well as to work with non-investment-grade or unrated companies. Globally operating banks see SCF as an important new area of their activity and focal point of current competition.

15. **Typically, SCF covers a set of instruments (see Annex) through which the largest company inside a supply chain uses its superior financial credit rating to help its lower-rated suppliers obtain access to financing at more favorable market rates than they would get otherwise.** Suppliers of all sizes upload their invoice directly to the portal or send their invoice using specific accounting software. The buyer approves the invoice for early payment by the SCF provider and the full invoice amount less a financing fee is transferred to the supplier's bank account. At maturity of the invoice period (with or without extension), the buyer will pay his due amount directly to the finance provider[29] (if the supplier has sold his invoice) or to the supplier's bank account (if the supplier has not sold the invoice). Overall, however, buyers only *arrange* the financing that allows suppliers to get early payment. Buyers can be of all sizes, given an established buyer-finance/SCF provider

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[26] The Berne Union estimate of global trade benefitting from short-term trade credit insurance and longer-term trade credit and guarantees is around 9 percent.

[27] See: International Chamber of Commerce: *2017 Study on Rethinking Trade and Finance*, which also notes that "Fintechs, many in startup phase, have identified significant opportunities in the financing of international trade, and have the potential to play an important role in progressing a collective effort to narrow, then close, the global trade finance gap [of $1.6 trillion] because it is increasingly clear that banks will be unable to materially do so."

[28] New SCF solutions are offered by SCF providers (Fintechs) or directly by banks that have SCF in their service portfolio.

[29] This can be the SCF provider itself, or the connected bank that is part of the SCF arrangement, or the bank that has SCF in its own service portfolio.

relationship exists. SCF concepts include a wide range of sophisticated instruments, techniques, and IT solutions that comprise traditional instruments in digitized formats and new services altogether. The Global SCF Forum[30] defines SCF as *the use of financing and risk mitigation practices and techniques[31] to optimize the management of the working capital and liquidity invested in supply chain processes and transactions.* A narrower definition is provided by the largest Fintech: *Supply chain finance is a set of solutions that optimizes cash flow by allowing businesses to lengthen their payment terms to their suppliers while providing the option for their large and SME suppliers to get paid early.[32]*

16. **In the category of 'Approved Payables Financing', the financial claims move from the suppliers' books to the SCF providers/financial intermediary, which** take full legal and economic ownership (rather than a security interest in the collateral); in return, it provides the supplier with working capital in the form of advance payments less the financial service charge (called discount), reducing the days sales outstanding (DSO) to provide the supplier with much-needed liquidity. SCF providers argue that the main attraction is that no additional debt creation is involved on either side (supplier or buyer)—only an extension of payables for the buyer and a true sale of receivables by the supplier. Other than the traditional factoring that would only include the bilateral relationship between supplier and finance provider, the SCF comprises all the parties to the transactions with the SCF as facilitator using the buyer's creditworthiness and digitization as cost advantage.

17. **The other SCF category is based on instruments where loans and advances are provided in return for rights to a collateral,** and the loan is recorded as a liability in the beneficiaries' balance sheet**.** An inventory repurchase (repo) agreement, or buy-back agreement is a special case of inventory financing when the buyer/supplier temporarily "sells" its inventory to a financing entity, and "buys' it back after a predetermined time. What seems like a sale and buy-back is in fact not recognized as a true sale by the accounting bodies; therefore, the inventory stays on the balance sheet and the funds received are recorded as liability until the repurchase takes place within the pre-agreed upon period (usually 30, 60 or 90 days).

18. **Finetrading, in contrast, is not considered a financial transaction because the Finetrader acquires the goods and not the claim.** Finetrading combines 'Finance' and 'Trading' especially by SMEs on the German and UK Market. The Finetrader takes

[30] Dominant partners in the Global SCF Forum are The International Chamber of Commerce (ICC) Banking Commission, BAFT, the Euro Banking Association (EBA), Factors Chain International (FCI), and the International Trade and Forfaiting Association (ITFA).

[31] In 2016, the Global SCF Forum published Standard Definitions for Techniques of Supply Chain Finance. The document aims at removing current inconsistencies in terminology and promoting the global adoption of the suggested terminology (www.supplychainfinanceforum.org)

[32] Primerevenue.com

ownership and pre-finances the goods on behalf of the buyer for a defined financing period. For the buyer, the benefits are reduced inventory and improved working capital, while the supplier gets paid immediately. Finetrading is a trade finance tool typically provided by intermediaries other than banks.

Chart 1: Development of L/Cs Compared to Open Account Trading 1978–2013 (Source Unicredit Group 2015)

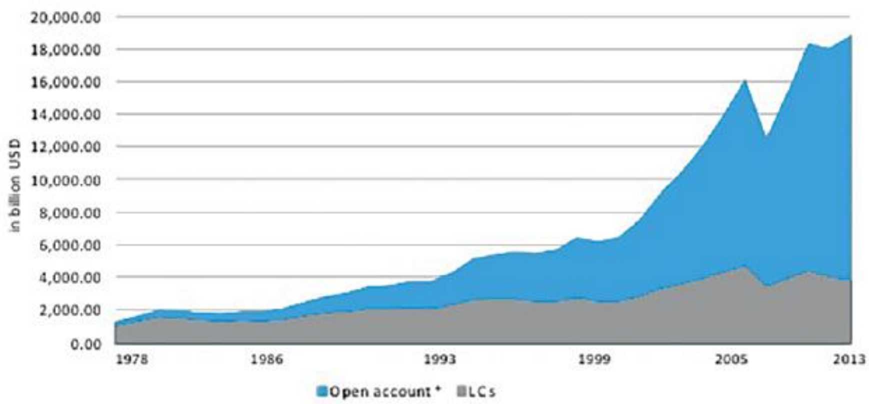
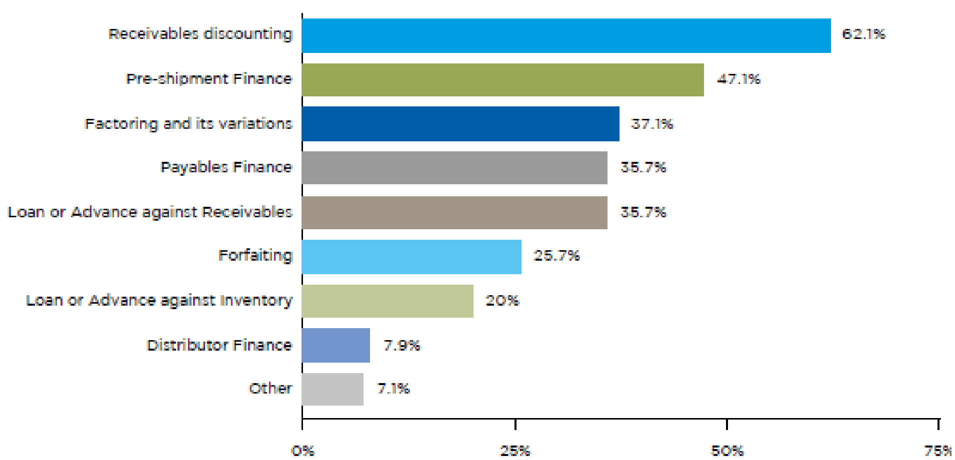


Chart 2: Most Used Techniques in Supply Chain Finance (ICC Global Survey on Trade Finance and Supply Chain Finance 2017:[33])



Secondary markets

19. **The issue of securities backed by trade receivables (asset-backed securities)—an important financing source for companies before the financial crisis—came almost**

[33] https://iccwbo.org/publication/2017-rethinking-trade-finance/. The annual survey comprises 255 responses from banks located in 98 countries

to a stand-still during the crisis. It has become popular again in recent years, due to increasing costs for traditional credit lines, especially for non-investment grade corporations. *Trade receivables securitizations* (TRS) allow banks or non-banks to raise capital by selling a selection of receivables (non-tradable financial assets) to a legally separate special purpose vehicle ('SPV'); based on the acquired receivables, the SPV can issue collateralized notes or commercial paper with the issuance proceeds flowing back to the original selling company. Because SPVs are separate entities, securitization can typically lead to a rating higher than the company's own credit rating, thereby providing access to greater liquidity at a lower cost of funds. At the same time, securitizations under current accounting regulations allow securitized assets to remain off balance sheet for entities managing an SPV, thus, the usage of regulatory capital for banks is reduced when compared to traditional balance sheet lending. Securitization is a way to reach a broader investor base, such as hedge funds, insurance companies, and pension funds. Banks also distribute trade finance to non-bank investors through direct sales of syndicated trade loans.

20. **Fintechs have also accessed the securitization markets as an alternative way of financing SMEs.** Participating SMEs can utilize the technology platform provided by Fintechs to sell their trade receivables held against their customers. As intermediaries, Fintechs select and structure eligible receivables, and match them with investors. Because of the difficulties SMEs often face with obtaining credit through regular channels, securitization (in addition to SCF) could enhance financial sector stability by enabling risk-transfer from banks to a wider pool of investors beyond the banking sector. *At the same time, it can hide the underlying risk, as was the case with the mortgage-backed securities in the global crisis, if they are outside the radar of surveillance.*

III. Statistical Implications

21. **Currently, there is no comprehensive global dataset covering trade finance statistics.** External sector statistics currently only separately distinguish trade credits as part of other investment. This instrument is narrowly[34] defined as *credit extended directly by the suppliers of goods and services to their customers* (*BPM6 5.70*). Therefore, trade credits[35] do not include financial intermediation (other than the settlement through the banking system). This definition does not cover any trade financing provided by third parties/financial intermediaries, such as direct working capital financing by suppliers (see paragraph 13), and new SCF techniques with financial intermediaries added back to the equation.

[34] It should be mentioned that the broader concept of trade-related credit has been acknowledged before and is mentioned in a footnote to BPM6 5.72: *Trade-related credit* is identified as a concept in *External Debt Statistics: Guide for Compilers and Users, Chapter 6, Further External Debt Accounting Principles*. It consists of trade credit as well as trade bills and credit provided by third parties to finance trade. It should be compiled as a supplementary item, where significant.

[35] Technical assistance experience of STA staff suggests that trade credits are an overall weak component in the external sector statistics compilation of many countries. Data are approximated with estimation techniques, or calculated as residual item.

22. **The traditional letters of credit category are not considered a financial instrument until documents are received and funds are transferred by banks;** from that moment, this category is included under deposit-taking corporation loans not differentiated as trade finance.

23. **The G-20 has acknowledged that international statistics produce insufficient data on trade finance** and asked to "coordinate and establish a comprehensive and regular collection of trade credit in a systematic fashion".[36]

24. **A comprehensive collection should be based on the umbrella term 'trade finance' and take into account:**

a. traditional bank-guaranteed instruments (letter of credits and other documentary collection instruments), which are off-balance sheet

b. other bilateral working capital financing between suppliers and financial intermediaries (such as export-related working capital lending, pre-export finance, supplier credits, receivables discounting, or forfaiting);

c. conventional open account trade financing, i.e., directly extended trade finance loans by the supplier to the buyer (currently trade credits in other investment);

d. newer open account SCF instruments that include the financing of a supplier by a bank or a nonbank financial intermediary (based on standardized definitions drafted by the GSCFF)

e. information about export credit insurance provided by public export credit agencies or private insurance firms to bridge the gap or cover the risk

25. **A stand-alone comprehensive (satellite) trade finance dataset to support informed and timely decisions is recommended** to respond to the call by policy makers. This dataset will also facilitate tracking the dynamics of the trade finance market. Going forward, the **existing statistical frameworks (*BPM6, 2008 SNA, MFSM*) would need to be updated** as well to reflect trade financing instruments and SCF providers.

26. **A comprehensive dataset on trade financing could also shed light on the different regional patterns**, because the nature of trade finance varies widely from country to country and region to region due to distance from trading partners, product types, and the efficiency of local market practices.

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[36] See: http://www.g20india.gov.in/pdfs/August2010_G20_Trade_Finance_Experts_group.pdf and https://cdn.iccwbo.org/content/uploads/sites/3/2017/01/ICC-Standard-Definitions-for-Techniques-of-Supply-Chain-Finance-Global-SCF-Forum-2016.pdf.

Multisource Statistics and Big Data to Compile Information on Trade Finance

27. **Growing digitization of commerce and finance processes is creating potential for accessing timely, precise, and relevant data right at the source of trade financing.** SWIFT, bank data bases, and digital Fintech's technology platforms are enabling these developments. On the SWIFT platform, financial institutions send structured electronic messages to one another to perform common business processes, such as making payments or confirming trades. The SWIFT "MT" standard, for instance, is used for international payments, cash management, trade finance, and treasury business.[37] To keep up with latest developments, in 2013 the ICC and SWIFT rolled out new industry-owned technology standards to digitize correspondent banking practices for supply chain finance (albeit, according to the WTO, not widely used yet).

28. **The complementary use of big data accessing these digital data sources may facilitate a sound, efficient, and timely data collection,** close existing data gaps, broaden the range of traditional macroeconomic statistics, and respond to research needs. Trade finance statistics as a separate data set could be compiled on a national and international level with instrument detail and eventually on a from-whom-to-whom basis. To this end, the statistical community on an international, regional, or national level could form Public-Private Partnerships.

[37] With regard to data quality, all digital SWIFT messages are supposed to satisfy the information needs of "international standards for combating of money laundering and the financing of terrorism and proliferation of weapons." As such, information are sufficiently detailed and accurate to be used in trade finance statistics.

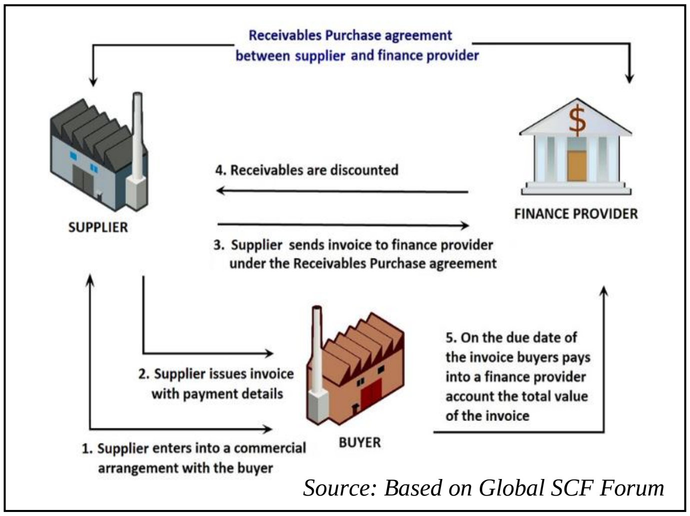
Annex: New supply chain finance (SCF) instruments in more detail – based on suggested terminology and grouping by the Global Supply Chain Finance Forum

SCF Definition established by the GSCF Forum

"Supply Chain Finance is defined as the use of financing and risk mitigation practices and techniques to optimize the management of the working capital and liquidity invested in supply chain processes and transactions.
SCF is typically applied to open account trade and is triggered by supply chain events. Visibility of underlying trade flows by the finance provider(s) is a necessary component of such financing arrangements which can be enabled by a technology platform. […]
[The buyers and sellers] often have objectives to improve supply chain stability, liquidity, financial performance, risk management, and balance sheet efficiency. SCF is not a static concept but is an evolving set of practices."

Accounts Receivable Centric SCF Category

Accounts or trade receivables refer to the outstanding invoices that a supplier has vis-à-vis the buyer of its goods and services. Receivables are recorded separately on the balance sheet as short-term claims. Using the Receivables Purchase program, *the supplier sells all or parts of these outstanding claims to a financial intermediary or SCF service provider which takes full legal and economic ownership* (and not just a security interest in the collateral); in return, it provides the supplier with working capital in form of advance payments less the financial service charge (called discount), reducing the days sales outstanding (DSO) and providing much needed liquidity the company can work with.



Source: Based on Global SCF Forum

The following three different techniques on the market are *seller (supplier)-led* programs.

(1) Receivables Discounting allows suppliers with outstanding short-term invoices mostly vis-à-vis *multiple buyers* to sell their receivables to a financial provider at a discount. This instrument is usually reserved to *"investment-grade" suppliers* that have a minimum credit rating. Because of this, the finance provider can offer this program on a full or partly "without recourse"[38] basis; i.e., the supplier can remove the accounts receivables completely or partly from its balance sheet, and the finance provider

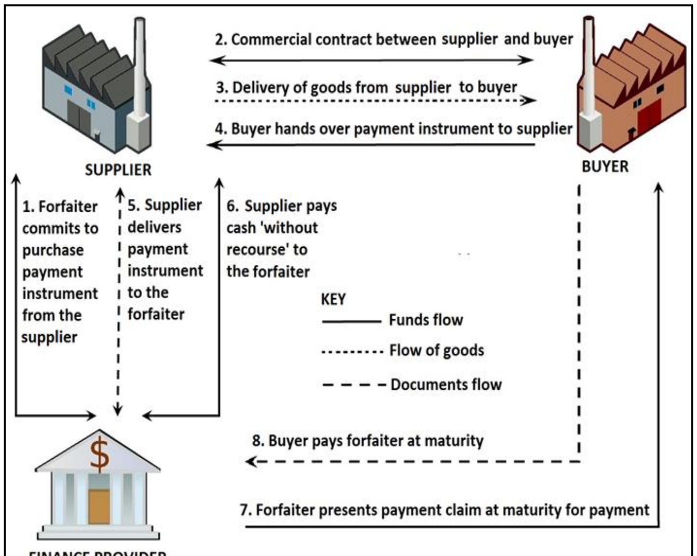
[38] Without recourse means: without subsequent liability. As a legal term, it signifies that the finance provider (and not the seller) of an asset is assuming the risk of non-payment of the asset.

bears the risk in case the buyers fail to perform their payments. A trade credit insurance can limit the risk exposure of the finance provider. This financing transaction between the supplier and a finance provider can be made with or without the knowledge of the buyers; and depending on the situation in some cases, the buyers may be asked to validate their accounts payables.

At maturity, the buyers pay the amounts of the invoices into the bank account (i) of the supplier, with limited access rights of the supplier; (ii) of the finance provider (the finance provider does not have to be a bank); or (iii) of the supplier without restriction. The latter one adding an additional element of risk for the finance provider.

The buyer benefits from extended credit terms in a stable supply chain environment. The supplier profits from increased short-term liquidity. And the finance provider provides services in a relatively stable non-speculative financial environment.

(2) Forfaiting is an export oriented form of supply chain finance where a forfaiter (finance provider) purchases from the supplier, without recourse, future payment obligations and trades these as *negotiable debt instruments* in the form of **bills of exchange, promissory notes, or L/Cs** on the *secondary forfaiting market*. These payment instruments are legally independent from the underlying trade and require a guarantee by a third party (normally the buyer's bank).



Source: Based on Global SCF Forum

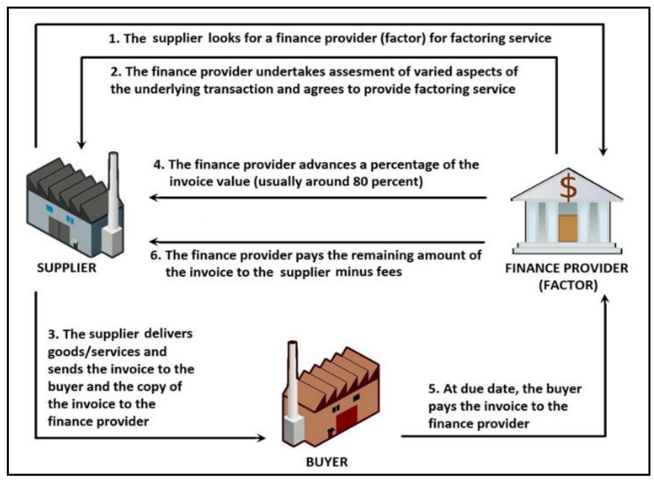
In the secondary market, forfaiters deal with financial investors. In the primary market, the supplier approaches the forfaiter before signing the contract with the buyer. The buyer obtains a guarantee from his bank, and provides the documents that the supplier requires to complete the forfaiting. After receiving *100 percent cash payment* against delivery of the payment (debt) obligation, the supplier has no further interest into the transaction, because the forfaiter must collect the future payments *plus forfaiting costs* (included in the invoice price) via the guarantor from the buyer. Forfaiting involves mostly medium to long term maturities, and is most commonly used in large, international sales of capital goods.

Forfaiting helps suppliers in trading with buyers of countries with high levels of risks, and obtaining a *competitive advantage by being able to extend credit terms* to their customers.

While the without-recourse-sale eliminates all risks for the supplier, the forfaiter charges for his credit risks as well as for covering the political, commercial, and transfer risk related to the importing country, which is also linked to the length of the loan, the currency of transaction, and the repayment structure. The costs are overall higher than commercial bank financing, but more cost effective than traditional trade finance tools. Forfaiting is only used in international trade financing.

(3) Factoring targets the domestic as well as the international market, whereby the latter often includes two "factors", one in each country. The suppliers, often SMEs, receive *around 80 percent* of the invoice value from the factor as advance payment, and a remaining, but discounted, value when payment is due by the buyer. The fees and discounts are borne by the supplier in return for the factor's services of advancing funds and managing the collecting of the receivables from the buyer. Because factoring is available with and without recourse, depending on the circumstances in the market, the factoring institution may add a credit insurance. Factoring provides suppliers with working capital, albeit discounted, allowing them to continue trading, while the factor receives margins from rendering the service.

Asset-based financing linked to the physical supply chain is not a new concept. There are a variety of traditional techniques for accessing finance both pre- and post-shipment. However, traditional factoring is often not fit for purpose for small businesses, as it typically entails long-term, complex contracts with fixed volumes.[39] *The innovations with SCF are the automated business processes and e-invoicing tools that are based on a central technology platform simultaneously accessed by buyers, sellers, and SCF providers.*[40]



Source: Based on Global SCF Forum

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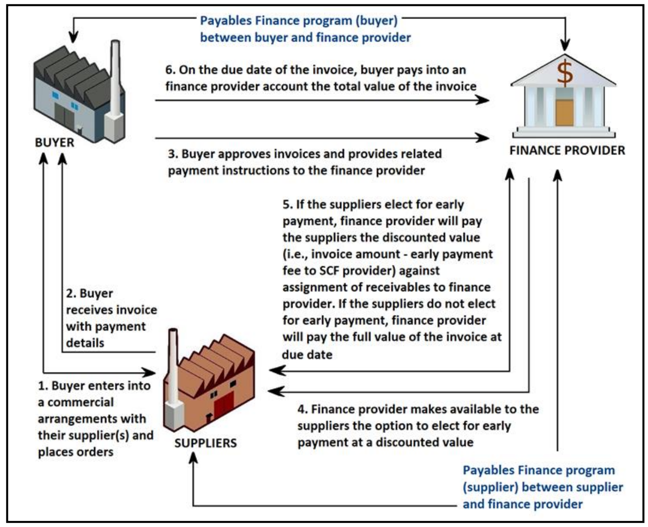
[39] The Future of FinTech: A Paradigm Shift in Small Business Finance; Report presented at World Economic Forum 2015

[40] In a nutshell, this overall elevated collaboration between the parties to the financial transaction and the visibility of the underlying trade flows is said to be the reason why SCF will increasingly outperform traditional financing. Additionally, what is mainly referred to as SCF on the markets is based on buyer-led financing (financing provided by large buyers to their smaller suppliers) rather than supplier-led financing. Once the supplier is onboard, the buyer approves the invoice, and a cascade of processes takes place on the SCF provider's platform.



Source: Based on Global SCF Forum

(4) Reverse Factoring, also known as Approved Payables Finance,[41] is a *buyer-led* and arranged financing program for *designated suppliers* in the supply chain. The buyer's creditworthiness allows the supplier to receive an early discounted payment for the accounts receivables, typically without recourse. The buyer will pay the due amount directly to the finance provider. Buyers can be large, but also medium-sized and at times even near non-investment grade (given, an established buyer-finance provider relationship exists); however, buyers only arrange the financing, but they are not part of the financing transaction. As with previous cases, the assets are changing ownership from the suppliers to the financial intermediary. The early financing is for 100 percent of the receivables less a discount, which is lower than with conventional trade financing. As before, the buyer receives an extended term for payment in a secured supply chain environment.

(4a) As a variation to (**4**), buyers use *their own funds* in **Dynamic Discounting** to decide how and when to pay their suppliers in exchange for a discount on the purchased goods; the earlier the payment, the larger the discount. The buyers can use their own access liquidity to generate additional income, while the supplier can optimize the days outstanding and the working capital.

Dynamic discounting is a typical example where Fintech companies[42] *have been entering the market as providers of web-based platforms that allow both parties to upload, view, and approve invoices for early payment*. For the buyers, there is no additional costs; the suppliers are charged a fee once they request early payment of the approved invoices.

Overall, in this category of Accounts Receivable Financing the financial claims move from the suppliers' books to the SCF providers (the service provider or directly to the finance provider); hence, *no new financial debt is created in the books of the suppliers for receiving*

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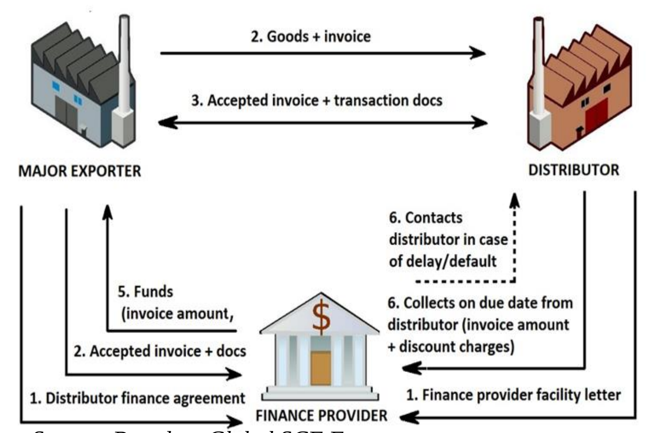
[41] This SCF program currently has various names on the market; most commonly, "reverse factoring". There may be slight differences in the execution of the programs.

[42] For instance: https://primerevenue.com/what-is-dynamic-discounting/

early payment, in return for new liquidity. On the creditor side, SCF programs[43] can be self-funded by the buyers, or composed of a mixed program where financing is shared by the buyers, capital markets, and financial institutions.

Loan/Advance based SCF category

The second SCF category is based on loans and advances, where financing is usually provided in return for rights to a collateral, and the loan is recorded as a liability in the beneficiaries' balance sheet.



Source: Based on Global SCF Forum

(5) The new edge to an existing instrument called **Distributor Financing** (or Channel Financing) is that large MNCs (as suppliers) are using this instrument increasingly for expanding into emerging markets. The MNCs support the financing of a geographically-important (network of) established distributors against their retail inventory, and the distributors repay their debt once the inventory is sold. Although the finance provider (e.g., local banks) is providing the funds and taking over the risks, often MNCs subsidize the financing by absorbing part of the interest margins or other forms of risk-sharing arrangements, and through reputational support. MNCs directly benefit from their suppliers' sales of goods to these distributors (buyers), and indirectly, because a sound supply chain allows end-customers to profit from products that can be delivered without delay. Distributor Financing has limited impact on MNCs balance sheets compared to foreign direct investment. *Therefore, Distributor Financing is often seen as alternative to foreign direct investment and preferred to establishing inventory-carrying subsidiaries abroad*. [44, 45] Through the engagement of the MNCs, distributors profit from better loan prices and bridging liquidity gaps. The collateral for the finance providers is usually an assignment of rights over the inventory.

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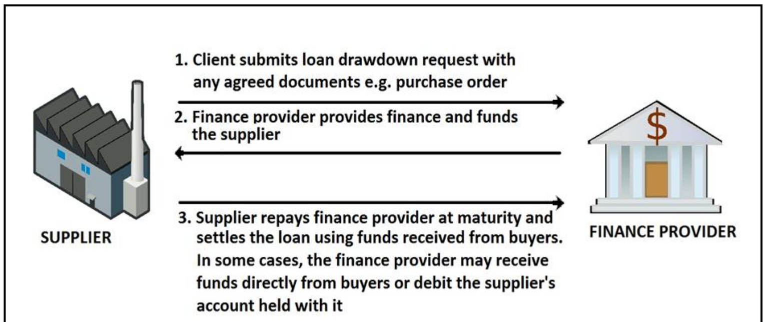
[43] For instance: https://primerevenue.com/what-is-supply-chain-finance/

[44] Treasureandrisk.com

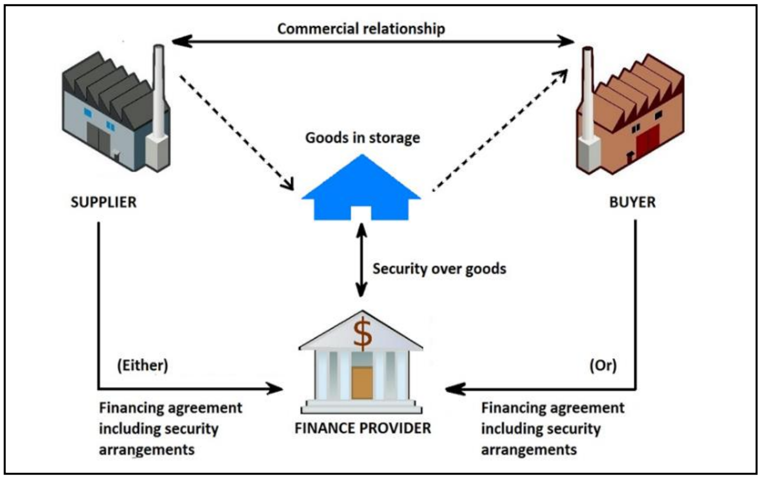
[45] Companies, of course, have plenty of other reasons why they would choose direct investment and the establishing of a longer-term interest in the host economy.

(6) With **Loan or Advance against Receivables**, the financial intermediary provides advances or loans to suppliers that are collateralized with future or current receivables, while collateralization may be formalized or accepted informally. The suppliers repay the loans upon maturity and interest on an accrual basis.



Source: Based on Global SCF Forum

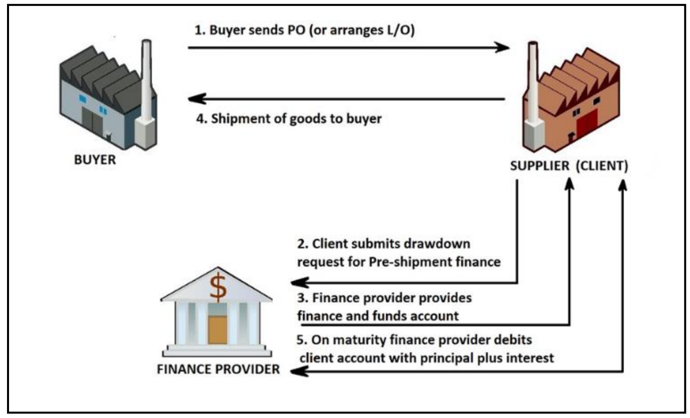
(7) Loan or Advance against Inventory is an asset-based financing instrument in form of a credit line for suppliers and buyers along the physical supply chain to raise funds "instead of locking unused value inside a warehouse". The finance providers obtain title over the goods as collateral, and utilize on-site inspections and property insurance for risk mitigation. Furthermore, finance providers base their lending on the inventory's appraised value, which is usually lower than the market value, and finance about 80 percent of this amount. For finished goods or work-in-progress, finance providers may also require purchase orders (on behalf of the buyers) or purchase contracts (on behalf of an end-customer). The transactions are settled regularly at the time inventory is used for production or sold off to customers. Although inventory financing is more expensive than other SCF instruments, for a certain market, it still provides advantageous terms, such as the ability to accumulate inventory and optimize working capital for lower rates than conventional bank financing.



Source: Based on Global SCF Forum

Financing of "toll manufacturing" **(7a)** of the inventory is a variation of (**7**); toll manufacturing is what the SNA calls "manufacturing services on physical inputs owned by others" (as opposed to contract manufacturing, where the manufacturer owns and provides the raw materials).

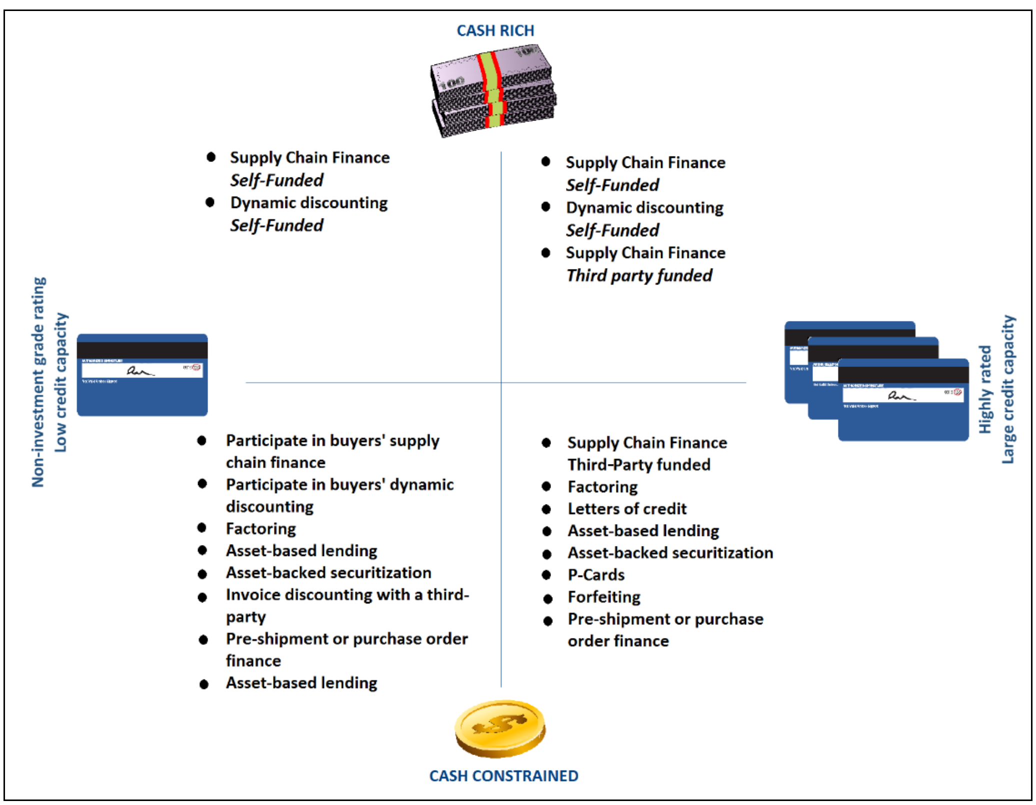
Inventory repurchase (**repo**) **agreement, or buy-back agreement**" **(7b)** is a special case of inventory financing when the buyer/supplier temporarily "sells" its inventory to a financing entity, and "buys' it back after a predetermined time. What seems like a sale and buy-back is in fact not recognized as a true sale by the accounting bodies; therefore, the inventory stays on the balance sheet and the funds received are recorded as liability until the repurchase takes place within the pre-agreed upon period (usually 30, 60 or 90 days).



Source: Based on Global SCF Forum

(8) In **Pre-Shipment Financing** (sometimes called "Packing credit"), a manufacturer receives financial assistance for purchasing raw materials, processing, and packing the finished goods for exporting. Although the financial transaction is between the manufacturer and the finance provider, the creditworthiness and reliability of the buyer play a role in negotiations, and so does the manufacturer's reputation to perform and deliver. A prerequisite for granting the financing may often be (i) a specific kind of L/C from the buyer and his bank or a confirmed and irrevocable purchase order (PO) for the export of goods; (ii) the documents relating to the raw materials may be pledged to the finance provider as collateral; and (iii) the granting of inspections to the finance provider during the manufacturing cycle.

There is "no one size fits all" SCF. Alternatives depend on individual circumstances.



Source: PwC: June 2014; "Managing Risk: Supply Chain Finance"