
Supply Chain Finance: A New Means to Support the Competitiveness and Resilience of Global Value Chains

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Introduction

The emergence of integrative trade and global value chains (GVCs) over the past 20 years has changed the competitive landscape in international goods and services markets.¹ Competition in many lines of businesses, particularly in the manufacturing sector, is now taking place more at a value chain level than at a company level. This development has increased the focus of large corporations on the efficiency with which goods, information and money flow within GVCs. Factors that characterize GVCs, such as geographic dispersion and a high number of participants, make it challenging to manage these three types of flows in a coordinated fashion. Yet, if a GVC is to become or remain competitive, it is important to continuously seek opportunities to optimize all of these flows.

GVC participants have placed a lot of emphasis over the past decade on improving the “physical supply chain”, that is the way goods are designed, procured, held in inventory and delivered. They have worked hard with their logistics partners to reduce costs, accelerate delivery times, better manage risk and automate information flows. As a result, the management of materials and final goods takes place very efficiently today, allowing GVC companies (and in particular large GVC buyers that occupy a central position within GVCs - which we will refer to in this paper as “GVC anchors”) to procure with relative ease from suppliers located in multiple and distant markets.

Progress has been slower to occur, however, in connection with the “financial supply chain” – that is the flows of financial information and money that take place between GVC members. Many GVCs that have smoothly-operating physical supply chains display inefficient financial supply chains that have a tendency to shift the burden associated with

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¹ Integrative trade refers to the broad business structure adopted by many Canadian and foreign companies. It expands the traditional trade model, that centers on the exporting and importing of goods, to include cross-border investment, the integration of imports into exports, trade in services and sales from foreign affiliates established through foreign investment. The formation and operation of global value chains are a core element of integrative trade.

the financing of short-term assets (such as accounts receivable and inventory) down the supply chain to smaller suppliers. Greater attention has thus been paid in recent years on improving financial flows within GVCs. The financial crisis, which made retaining cash and managing the risk of supplier and distributor failure key priorities, provided a strong incentive to the chief financial officers (CFOs) of GVC anchors to improve the effectiveness of their financial supply chains. Following the crisis, efforts continued to be deployed by firms in Canada, the United States and elsewhere in order to improve the operation of their financial supply chains.²

The aim of this paper is to introduce the reader to the financial supply chain and to the strategies that can be used to improve its efficiency through the use of supply chain financing solutions. The latter represent a specialized set of technology-driven financial services that GVC anchors and suppliers in major world markets have been adopting at a steady pace over the past five years. In Canada, large companies that act as GVC anchors have also started using supply chain financing solutions, although adoption is taking place at a slower pace. The offer for supply chain financing solutions in Canada is characterized by a number of constraints that limit their availability for Canadian GVC anchors, exporters, suppliers and sub-suppliers. Since these solutions can help safeguard the competitive position of Canadian segments of GVCs and, at the same time, represent a potential means to alleviate some of the credit market gaps presently observed in Canada, a public policy response may be in order to help increase the availability of supply chain finance in Canada.

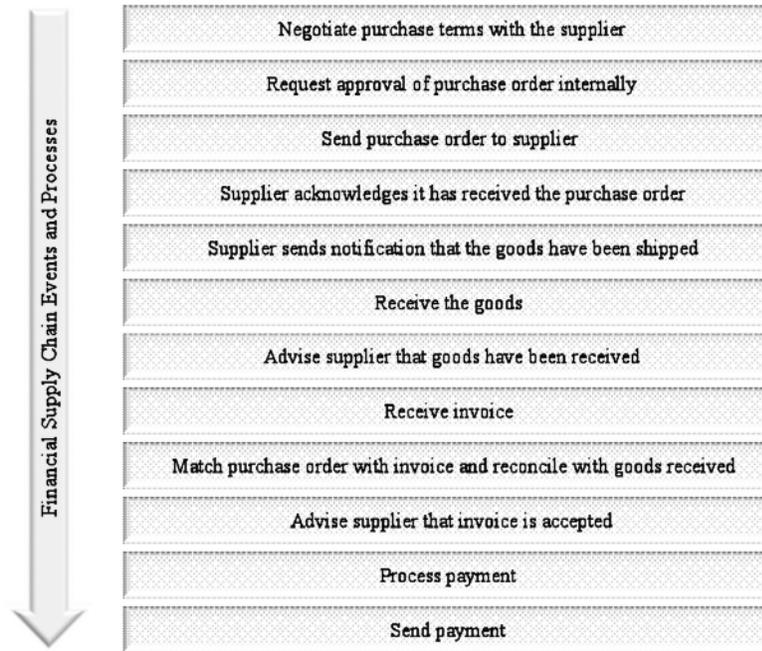
This paper includes six sections. The first one describes the financial supply chain and its current shortcomings. The second one introduces the reader to the most common supply chain financing solutions and the benefits they bring. Sections three and four discuss, respectively, the current state and the outlook for supply chain finance globally. The Canadian supply chain finance landscape is presented in section five while the last section examines whether some of the currently observed credit market gaps in Canada could potentially be addressed through the use of supply chain financing solutions.

The Financial Supply Chain

The financial supply chain is comprised of the sequence of financial events and processes that take place as commercial transactions are executed. These events and processes include flows of financial information (e.g. sending a customer an invoice) and money between GVC members. The major financial supply chain events and processes that occur when a company *purchases* goods from another value chain participant are depicted below (Figure 1).

² For example, in a survey of 1,500 European corporates conducted in May 2010, close to 60% of respondents indicated that finding ways to increase supplier access to financing would remain a priority even once the economic recovery gained momentum. See Demica, “Securing Growth, Supply Chain Finance – A Fourth Report from Demica”, June 2010, p. 7.

Figure 1. Financial Supply Chain Events and Processes (Buyer's Perspective)



Source: Prepared by the authors

From the perspective of a company that *sells* goods to another value chain member, key financial supply chain events and processes mirror the ones presented above (e.g. in the third step, the purchase order is received as opposed to sent). Although seemingly simplistic, Figure 1 depicts supply chain events and processes in respect of which financial flows are regularly inefficient within domestic, regional and global value chains.

Typical domestic and regional financial supply chain inefficiencies

Business-to-business invoicing is slow and costly in North America due to lack of automation. In the United States, 70 per cent of companies still issue paper invoices to their clients and it takes 55 days, on average, to manually process these and other printed commercial documents.³ As a result, processing costs can reach 50 or more US dollars *per invoice* compared to 50 US cents for companies that fully leverage automated invoicing systems.

Another example is the limited use of electronic payment systems by North American companies. It is estimated that 75 per cent of non-cash business-to-business payments in the United States are still made using cheques.⁴ In comparison, cheques are expected to

³ Steve Berez and Arpan Sheth (2007), "Break the Paper Jam in B2B Payments" *Harvard Business Review*, November 2007, p. 28 and Ian Bryant and Richard Bottomley, "Financial Supply Chain Management - Part 2: Dematerialization and Automation", *GTNews*, May 3, 2007.

⁴ Source: Forte Consulting Group, as referenced in "Market Insight: Why B2B payments need a 'BizPal'", First Data Corporation, 2009, p.1.

soon disappear from the business-to-business payment landscape in Northern Europe while their use is falling across the rest of Europe.⁵ Cheques remain widely used by companies in Canada and the United States to settle accounts payable as they represent a simple way to hang on to cash longer (“the cheque is in the mail...”). There are indirect costs associated with this method of retaining cash since electronic payments are less expensive, reduce fraud and facilitate the transition to electronic invoicing (another source of savings). The end result for Canadian and American companies is that, although payment terms are regularly set at 30 days, they typically get paid in 45 to 60 days - the same time it took forty years ago.⁶

Typical global financial supply chain inefficiencies

Compared to domestic and regional supply chains, GVCs involve a larger number of companies and countries and span greater distances. They also give rise to more documentation: for a typical GVC transaction, as many as 40 documents can come into play that emanate from up to 20 different companies.⁷ Banking practices, as well as the use and sophistication of information technology also vary more within GVCs than within domestic and regional value chains. All of these elements make it challenging to accelerate the speed at which financial supply chain events and processes take place. In turn, this lengthens the time it takes for suppliers to get paid - especially if they are far removed from the GVC anchor along the value chain.

Another phenomenon that frequently weakens the effectiveness of financial supply chains is the tendency of GVC anchors to improve their cash position at the expense of *upstream* or *downstream* GVC participants.⁸ Prior to the financial crisis, CFOs of GVC anchors had been under intense pressure to cut financing costs and to free up cash through better management of accounts receivable, inventory and accounts payable. The crisis made attaining these goals an even greater priority as credit markets dried up and sales and profits fell. Over the past few years, GVC anchors have thus been extracting even greater amounts of cash from their accounts receivables (by pressuring buyers to pay more quickly), accounts payables (by paying suppliers later) and inventory (by ordering as little and accepting delivery as late as possible).

⁵ The use of e-payments between businesses is prevalent in the Scandinavian countries and should also become widespread in a few more years across Europe when the Single Euro Payments Area (SEPA) is fully implemented. Since January 2008, SEPA allows businesses to receive and send euro payments using electronic credit transfers anywhere across the SEPA area within a predictable timeframe and at the same cost, irrespective of destination. Thirty-two countries form the SEPA area: all European Union member countries plus Iceland, Liechtenstein, Monaco, Norway and Switzerland. For more on SEPA, consult the European Payments Council’s website at www.europeanpaymentscouncil.eu or the European Central Bank’s website at www.ecb.int.

⁶ Killen & Associates (2002), “Optimizing the Financial Supply Chain: How CFOs of Global Enterprises Are Succeeding by Substituting Information for Working Capital”, p. 9.

⁷ Martin R. Fellenz et al., “Requirements for an Evolving Model of Supply Chain Finance: A Technology and Service Providers Perspective” *Communications of the IBIMA*, volume 10, 2009, p. 232.

⁸ Value chain participants located *upstream* from GVC anchors include direct suppliers and all lower tier suppliers. *Downstream* value chain members include all the intermediaries (e.g. wholesalers, retailers) that play a role in making GVC anchors’ production available to end users.

The costs associated with financial supply chain inefficiencies

Ingrained and diverse payment and invoicing habits, the number and distance between GVC participants and the propensity of GVC anchors to preserve cash by shifting the burden to other GVC members are all factors that reduce a financial supply chain's efficiency. In practical terms, these factors force upstream and downstream GVC participants to borrow more and for longer periods of time.

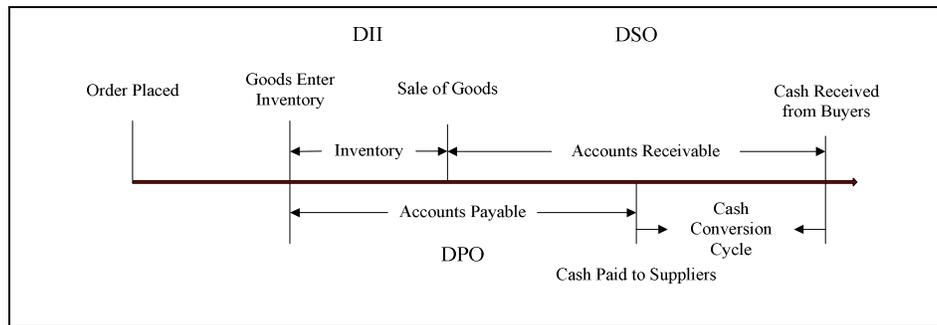
The cash conversion cycle is a commonly-used benchmark used to calculate the timing difference that exists between the moment cash leaves a company to pay suppliers and the time it takes to convert inventory to cash (Figure 2). The longer the cash conversion cycle, the longer the company will need to borrow funds to bridge this gap. The three components of the cash conversion cycle are:

- Days Sales Outstanding (DSO), which measures how long it takes for a company, on average, to get paid;
- Days in Inventory (DII), which measures how long it takes, on average, for inventory to move through a firm's various production stages and be sold; and
- Days Payable Outstanding (DPO), which measures how long it takes for a company, on average, to pay its suppliers.⁹

The relationship between the cash conversion cycle and these three components is:

$$\text{Cash conversion cycle} = \text{DSO} + \text{DII} - \text{DPO}$$

Figure 2. The Cash Conversion Cycle



Source: Prepared by the authors based on a similar chart produced by Global Business Intelligence

Globally, companies that are highly effective at managing their working capital can have cash conversion cycles as low as 15 days.¹⁰ Conversely, inefficient working capital management practices can lead to cash conversion cycles of up to 100 days.¹¹ Borrowing

⁹ DSO, DII and DPO can be calculated as follows using a company's financial statements: $\text{DSO} = (\text{Accounts receivable} / \text{Sales}) * 365$; $\text{DII} = (\text{Inventory} / \text{Cost of goods sold}) * 365$; $\text{DPO} = (\text{Accounts Payable} / \text{Cost of goods sold}) * 365$.

¹⁰ Working capital refers to the difference between the value of a firm's current assets (e.g. cash, accounts receivable, inventory) and current liabilities (e.g. accounts payable, short-term bank debt and, for large corporations, commercial paper). The expression "working capital" is also frequently used, in a generic manner, to refer to the short-term availability of cash within a company (e.g. "company X is trying to find ways to increase its working capital").

¹¹ Aberdeen Group, "The 2008 State of the Market in Supply Chain Finance", December 2007, p. 9.

funds for an additional 85 days in order to finance the mismatch between the time when suppliers are paid and the moment when sold goods are paid for raises costs for firms and for GVCs. For example, if a Canadian supplier needs to finance a gap of CAD 1 million through its bank line of credit for an additional 85 days, then the incremental interest charges it will need to pay will amount to CAD 9,315 assuming that this supplier borrows at Prime + 1.25% and that the Prime rate is 2.75% (CAD 1 million * 4% * 85 days / 365 days = CAD 9,315). Keeping all other factors constant, if a foreign competitor has a shorter cash conversion cycle, it should be able to offer its products at lower prices and/or be more profitable than the Canadian supplier. This is all the more true if we consider that financing costs can represent as much as five per cent of a company's total cost of goods sold.¹²

There exist several alternatives to borrowing through a bank line of credit in order to finance the cash shortfall that normally characterizes the cash conversion cycle. For instance, the Canadian supplier in the example above could try to receive cash more quickly by offering discounts to buyers if they pay faster or by selling some or all of its accounts receivable at a discount to a factoring company.¹³ The problem with these two solutions is that they are generally more costly than borrowing from a bank.¹⁴ Another alternative available to our supplier would be to replicate the buyer's behaviour: that is pay its own suppliers later and request that they hold inventory longer. This approach often produces a domino effect as each subsequent tier of suppliers adopts the same cost-shifting strategy. Since higher financing costs usually get reflected in higher product prices, the end result is a less competitive GVC. The risk of supplier failure within the GVC also rises as the cash conversion cycle of lower-tier suppliers (that typically have a more constricted and costly access to cash) gets extended.

As can be observed, opportunities abound to increase the efficiency of financial supply chains embedded within domestic, regional and global value chains. In response, leading trade finance banks and technology service providers have been developing creative financing solutions and platforms to accelerate and optimize financial flows within GVCs.¹⁵ These solutions and the electronic trade platforms that often act as their backbone are commonly referred to as "supply chain finance" or "supply chain financing" solutions.¹⁶

¹² Source: FinListics Solutions, as quoted in Bob Dyckman, "Integrating supply chain finance into the payables process" *Journal of Payments Strategy and Systems*, 3(4), 2009, p. 314.

¹³ A factoring company (or "factor") are institutions specialized in purchasing, at a discount, some or all of a company's accounts receivable.

¹⁴ For example, if a supplier offers a 2% discount to a buyer if it pays on day 10 as opposed to day 30, then the cost of financing associated with getting cash 20 days earlier will be 36.9% per annum. If, instead, the supplier sells its accounts receivables to a factor and pays a 1% fee then, assuming that the factor pays the supplier on day 5 and that the receivable is payable on day 30, the cost of financing associated with getting cash 25 days earlier will be 14.7% per annum.

¹⁵ Technology service providers facilitate the process of exchanging purchase orders, invoices, payments and related documents and help integrate this information between buyers, sellers and financial institutions. Orbian, Demica, Bolero, Global SCF and PrimeRevenue are examples of technology service providers active in the field of supply chain finance.

¹⁶ It is worth noting that the development of SCF solutions is not a new phenomenon. For example, paper-based discounting programs that generate similar cash flow improvements and financing cost reductions as supplier payment programs (described in the next section) have existed for at least two decades (on this point, see Marcus Hughes, "The Best Kept Secrets in Supply Chain Finance" *GTNews*, June 26, 2007). During the 1990s, and more so during the past decade when value chains

Supply Chain Finance

Supply chain finance (SCF) solutions represent a combination of technology solutions and financial services that closely connect GVC anchors, suppliers, financial institutions and, frequently, technology service providers. They are designed to improve the effectiveness of financial supply chains by preventing detrimental cost shifting and by improving the visibility, availability, delivery and cost of cash for all GVC participants. They are focused on facilitating trade conducted on an open account basis, which now makes up 80 per cent of world trade.¹⁷ A wide range of industries are well-suited for (and have started to adopt) SCF solutions, including: retailing, automotive, manufacturing, electronics, food and drink, pharmaceuticals, distribution, heavy equipment and technology.¹⁸

There is, at times, confusion with respect to the difference between trade finance and SCF. Trade finance corresponds to the provision of financing to suppliers to help them produce goods and to foreign buyers to help them purchase these goods. Trade-related supplier financing is often made through loans (e.g. bank line of credit backed by insured foreign accounts receivable) or via the sale of accounts receivable to a factoring company. Buyer financing is usually provided through direct loans made by a financial institution or export credit agency or by the supplier when selling on open account terms. Trade finance also includes the payment instruments commonly used in international trade transactions (e.g. letters of credit and documentary collections) to safeguard the interests of buyers (who want to ensure receipt of the right goods) and suppliers (who want to ensure they are paid). Finally, trade finance includes risk mitigation instruments such as trade credit insurance (that protects suppliers against the risk of non-payment by foreign buyers) and contract bonding (that protects foreign buyers against the risk that the supplier fails to perform its obligations under a commercial contract). As we will see, SCF constitutes an alternative means for suppliers and buyers to gain access to cash. Accordingly, SCF can be considered a sub-set of trade finance.

Supplier payment programs

The most frequently used SCF solution consists of supplier payment programs driven by GVC anchors. The concept behind supplier payment programs is relatively straightforward: the GVC anchor provides access to its lower cost of capital to its key suppliers, enabling them to get paid more quickly and to decrease their financing costs.

Using a shared technology platform, suppliers can request funding from a participating financial institution as soon as a pre-defined event takes place or at any other point in time prior to the scheduled settlement date (Figure 3). Under *pre-shipment* arrangements, suppliers can gain access to cash as soon as a purchase order is received from the GVC anchor. With *post-shipment* structures, the approval of the invoice by the

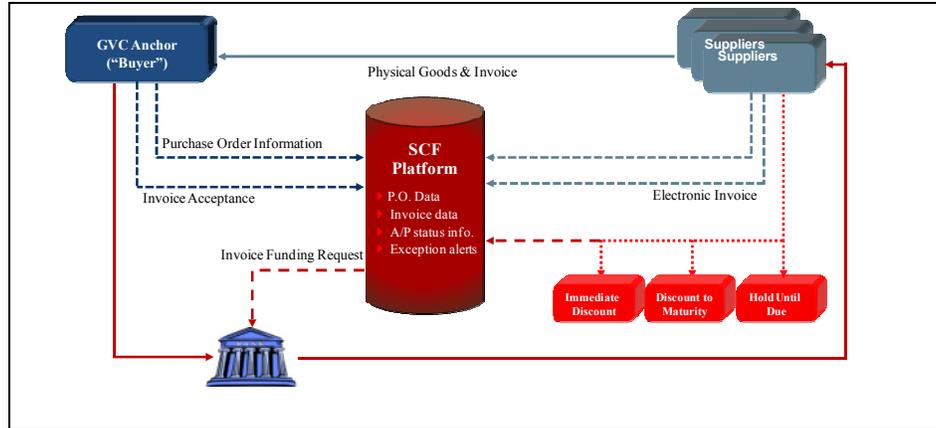
became more global, web-based technologies improved and paper documents started being replaced by electronic documents, the development and distribution of SCF solutions accelerated.

¹⁷ International Chamber of Commerce Banking Commission, “Rethinking Trade Finance 2009: An ICC Global Survey”, March 2009, p. 9. Open account trade refers to a payment arrangement whereby suppliers ship goods to buyers and give them an agreed-upon period of time to pay (e.g. 30 days). Other payment methods used in international trade include cash in advance, letters of credit and documentary collections.

¹⁸ Source: Demica, “Demand and Supply, Supply Chain Finance - A Second Report from Demica”, May 2008, p. 4.

GVC anchor acts as the trigger that allows suppliers to request an early discounted payment. Once the financial institution receives the request for payment, it can process and transfer the funds to a supplier's bank account in as little as twenty-four hours. At the maturity date of the accounts receivable, the GVC anchor pays the financial institution directly.

Figure 3. Supplier Payment Program



Source: Export Development Canada

Financial institutions participating in supplier payment programs will normally use the face value of the invoice to perform their discounting calculations. This results in greater liquidity being made available to suppliers compared to factoring (where pre-payments are frequently capped at 80 per cent of the invoice amount) or operating lines of credit provided by banks (typically limited to 75 to 90 per cent of the value of accounts receivable, depending if the buyer is domestic or foreign and whether the receivables are insured).

Using the approved invoice as a trigger (i.e. *post-shipment* arrangement) is more common than using the purchase order (i.e. *pre-shipment* arrangement). In this last case, the goods may not yet have been produced by the supplier which results in the financial institution taking on additional risk. The GVC anchor may also make changes to its original purchase order, which adds complexity and increases the risk of disputes between the GVC anchor and its suppliers. Purchase-order-based supplier payment programs are therefore usually reserved for well-established trading relationships.

In order for supplier payment programs to generate cost savings, the GVC anchor's credit rating must be stronger than that of participating suppliers. To date, such programs have normally involved investment grade GVC anchors that have a cost of capital at least 3 percentage points lower than their suppliers. The example presented in Box 1 below illustrates how the cost savings generated by supplier payment programs can be calculated and used by GVC anchors to extend payment terms, extract pricing concessions or get the supplier to support greater levels of inventory - in all cases without causing the supplier's financial condition to deteriorate.

Interestingly, in the aftermath of the financial crisis, GVC anchors began implementing supplier payment programs with the primary motive of stabilising the financial health of upstream GVC members. In other words, these GVC anchors were prepared to let suppliers reap most or all of the financial gains associated with the use of

supplier payment programs in order to reduce the risk of supply disruptions within the GVC.

Box 1. The Cost Savings Generated by Supplier Payment Programs

Let us assume that an emerging market supplier has access to capital at a cost of LIBOR + 5.0 per cent whereas a Canadian GVC anchor, who regularly pays for imported supplies using US dollars, can borrow at LIBOR + 1.0 per cent. If we assume that LIBOR is at 0.50 per cent per annum, then the daily financing cost for the supplier associated with a USD 600,000 order would be USD 91.67 (i.e. $\text{USD } 600,000 * 5.5 \text{ per cent} / 360 \text{ days}$). Under a supplier payment program, the supplier's cost of capital could fall to LIBOR + 2.50 (once the bank's profit margin is netted out) which results in a daily financing cost of USD 50.00 (i.e. $\text{USD } 600,000 * 3.0 \text{ per cent} / 360 \text{ days}$).¹⁹ The daily savings of USD 41.67 (USD 91.67 minus USD 50.00) can be used as a bargaining chip by the GVC anchor in order to pay later, pay less or hold less inventory.

- i) Extending current payment terms: If terms call for payment in 60 days, the GVC anchor could ask for an extension to 110 days without any increase in borrowing costs for the supplier (keeping all other factors constant).²⁰ The break-even number of days can be found by first calculating what the supplier's borrowing cost is for a 60 day period without the supplier payment program:

Supplier's borrowing cost = $(5.5 \text{ per cent} * \text{USD } 600,000 * 60 \text{ days}) / 360 \text{ days} = \text{USD } 5,500$

And then solving for the number of days, keeping the original financing cost in dollars constant and using the supplier's new borrowing cost:

Break-even number of days = $(\text{USD } 5,500 * 360 \text{ days}) / (3.0 \text{ percent} * \text{USD } 600,000) = 110 \text{ days}$

This extension of payment terms can help the GVC anchor increase its DPO, thereby reducing its cash conversion cycle and financing costs. In our example, the GVC anchor would have 50 more days to pay (i.e. 110 days - 60 days) which would increase overall company cash flow by USD 83,333 on an annual basis (i.e. $\text{USD } 600,000 / 360 \text{ days} * 50 \text{ days}$). The GVC anchor's financing costs would also decrease by USD 1,250 (i.e. $\text{USD } 600,000 * 1.5 \text{ per cent} * 50 \text{ days} / 360 \text{ days}$).²¹

- ii) Extract supplier price concessions: The GVC anchor could ask, instead, that part or all of the daily savings of USD 41.67 be used to lower unit prices. Over the current 60 day payment period, total interest savings for the supplier amount to USD 2,500 (i.e. $60 * \text{USD } 41.67$). Keeping all other factors constant, unit costs could therefore decrease by 0.4 per cent ($\text{USD } 2,500 / \text{USD } 600,000$) without penalizing the supplier.

- iii) Leverage supplier to carry more inventory: Finally, the GVC anchor could ask the supplier to retain ownership of goods on an ongoing basis for an additional 20 days. In connection with an order sold for USD 600,000, the supplier's inventory may be valued at USD 420,000 (assuming a gross margin rate of 30.0 per cent). If the supplier's inventory carrying cost is 10.5 per cent (5.5 per cent cost of financing plus 5 per cent for storage and insurance), its daily inventory carrying cost will be USD 122.50 ($10.5 \text{ per cent} * \text{USD } 420,000 / 360$). Dividing the total savings of

¹⁹ In practical terms, LIBOR + 3.0 becomes, in this example, the discount rate that would be used by the bank once the supplier requests that a purchase order, invoice or account receivable be discounted. To reap the full benefit of this lower cost of capital, the supplier should request payment as early as possible under the supplier payment program.

²⁰ The extension to and even past the 120 day mark for the accounts payable of GVC anchors is now commonplace. When GVC anchors are retailers, the days payable outstanding can now reach 200 days or higher, something that was unheard of just a few years ago.

²¹ This amount of savings may appear like a small sum on its own, but when multiplied by the thousands of purchasing transactions a GVC anchor conducts every year, the savings can become significant.

USD 2,500 (calculated above) by the daily inventory carrying cost of USD 122.50 yields the 20 day break-even extension for the inventory carry period.

Source: Prepared by the authors based in part on an example presented in Dyckman, *op. cit.*, p. 314

Aside from lowering financing costs, supplier payment programs can provide other advantages to GVC anchors and their suppliers. Table 1 outlines some of these other operational benefits and summarizes the main financial benefits of supplier payment programs.

Table 1. Benefits of Supplier Payment Programs

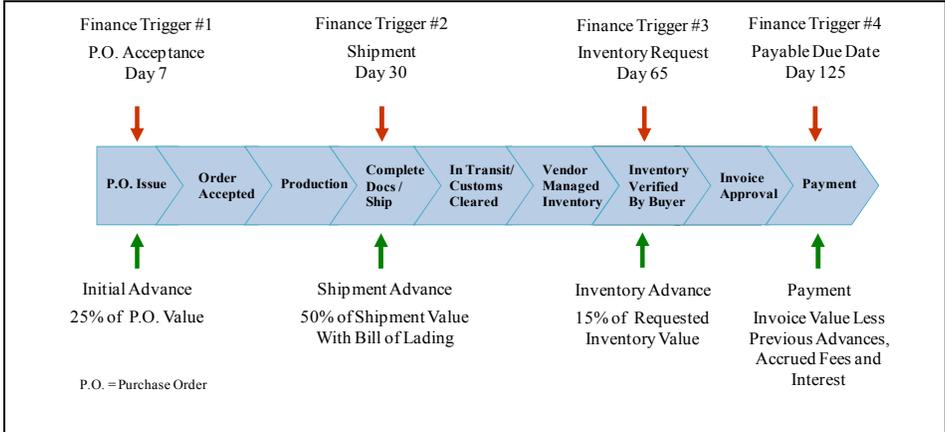
BENEFITS FOR GVC ANCHORS (BUYERS)	BENEFITS FOR SUPPLIERS	BENEFITS FOR GVC ANCHORS AND SUPPLIERS
<ul style="list-style-type: none"> ➤ Increase in DPO and drop in DII ➤ Cost of goods sold may drop due to lower negotiated input prices ➤ Cost of processing payments to suppliers decreases as it is now performed by the financial institution 	<ul style="list-style-type: none"> ➤ Ability to discount purchase orders, invoices or accounts receivable early and with ease ➤ Ability to obtain more cash at a cheaper rate than through the use of discounts, factoring or a bank line of credit ➤ Reduction in DSO ➤ Savings produced by the supplier payment program can help offset the cost associated with a GVC anchor's request to extend payment terms, carry more inventory or reduce prices ➤ Increases certainty of payment and eliminates the need for credit insurance for sales to GVC anchors 	<ul style="list-style-type: none"> ➤ Reduction in the cash conversion cycle ➤ Financing costs decrease ➤ Helps establish a more collaborative relationship ➤ Enhances the stability and competitiveness of GVCs ➤ Improved visibility of cash flow achieved through the SCF technology platform ➤ Better cash flow forecasting ➤ SCF technology platform encourages automation of financial supply chain processes (e.g. ordering, invoicing) which can significantly reduce administration costs

Source: Prepared by the authors

Other supply chain finance solutions

SCF solutions include other types of financing options that can help cut costs and improve GVC efficiency. For example, *in-transit inventory financing* can assist small and medium-sized exporters or importers gain access to cash while goods are being delivered in cases where they retain ownership of goods in transit. *Raw materials inventory financing* can help suppliers obtain lower prices on physical inputs by allowing them to order larger quantities. This can be accomplished by leveraging a GVC anchor’s purchasing power with lower-tier suppliers and/or its banking relationships. *Vendor managed inventory financing* can support suppliers that sell to GVC anchors that operate just-in-time inventory systems.²² In this case, GVC anchors usually want to receive (and be invoiced for) components only when they need and use them. This approach can put a lot of pressure on suppliers who must finance inventory for lengthier periods of time. A SCF solution can be crafted for such cases whereby a varying percentage of the purchase order value can be advanced to the supplier following the completion of pre-determined stages (Figure 4).

Figure 4. Event-Triggered Supply Chain Financing Solution



Source: Prepared by the authors based, in part, on a similar chart produced by Global Business Intelligence

Finally, looking further downstream along the value chain, *distribution financing* allows GVC anchors to remove inventory from their books more quickly and to accelerate cash inflow through the early discounting of receivables. Distribution financing programs are similar in structure to supplier payment programs except that GVC anchors now act as suppliers and look to SCF to reduce DII and DSO (as opposed to increasing DPO). The burden for distributors of having to carry more inventory, sooner, is offset by giving them more time to pay.²³ At invoice maturity, the distributor pays the financial institution instead of the GVC anchor.

²² In this setting, the term “vendor” has the same meaning as “supplier”. Vendor managed inventory financing is at times referred to as *consignment stock financing*.

²³ In some cases, gaining access to larger quantities of inventory can help distributors increase revenues. This will be the case, for example, with products exhibiting seasonal sales patterns such as outdoor sporting goods (where the costs associated with stock outs is high) or that come in many different models or with different features such as automobiles or televisions.

Distribution financing is less appealing for financial institutions than supplier payment programs since distributors' credit quality is not as high, usually, than that of GVC anchors. Further, credit will need to be assessed and monitored for numerous distributors as opposed to a single entity under supplier payment programs. For this reason, many financial institutions are only prepared to provide distribution financing if they have recourse back to the GVC anchor.

A majority of early adopters of SCF report that these solutions have performed as intended: financing costs have been lowered, unit costs of procured goods have declined, DPOs have been lengthened, DSOs shortened and supply disruptions reduced.²⁴ Despite this, the usage rate for SCF solutions remains relatively low. We examine why next.

The Current State of Supply Chain Finance

Although SCF has grown rapidly during the past few years (spurred along, namely, by the financial crisis), it remains a category of trade finance solutions that is in an early stage of development. For instance, a survey conducted in May 2010 found that only twenty-five per cent of European corporations were using SCF solutions (a strong increase from the previous year when only fifteen per cent of respondents indicated they used SCF).²⁵ The usage rate for SCF is believed to be at least as high in the United States but lower in Canada due, in part, to the relatively small number of GVC anchors located in Canada.

Many factors explain why, despite the benefits that they can bring, SCF solutions have not been adopted by more GVC participants. The reasons most frequently identified by scholars, SCF providers and supply chain experts are outlined below.

Demand-side impediments:

- Lack of understanding by GVC anchors and suppliers of the concept, costs and benefits of SCF
- Resistance to change within GVC anchors and supplier firms
- Costs and efforts required by GVC anchors to sign up suppliers and distributors to SCF programs
- Suppliers wary of embarking on programs driven or imposed on them by GVC anchors
- Difficulty or inability of suppliers to get their bank to release their security interest in the accounts receivables owed by GVC anchors
- Concerns with systems integration costs on the part of suppliers who risk having to deal with multiple, non-compatible, SCF platforms when selling to more than one GVC anchor

Supply-side impediments:

- A limited number of banks offer supply chain financing solutions and an even lower number (mostly the top global banks) offer comprehensive suites of SCF solutions²⁶

²⁴ See Aberdeen Group, *op. cit.*, p. 7.

²⁵ Source: Demica, June 2010, *op. cit.*, p. 7.

²⁶ Top global banks presently dominate the SCF landscape. The most active in this space included, at time of writing, Citi, Bank of America, Wells Fargo, J.P. Morgan, Deutsche Banks, Banco Santander, HSBC and Standard Chartered Bank.

- Low-margin business for banks who therefore request high transactional volumes in order to accept suppliers under supplier payment programs
- Limited risk appetite by banks to put in place supplier payment programs when the buyer is not an investment grade risk
- Limited risk appetite of many banks for upstream (e.g. in-transit inventory financing) and downstream (e.g. distribution financing) SCF exposures
- Inability of banks to provide, on their own, sufficient SCF capacity to some GVC anchors due to credit constraints
- Costly for banks to develop, on their own, the technology to support their SCF activities²⁷
- Cumbersome and costly for banks to perform due diligence and perfect their security interests when their footprint is minimal in suppliers' or distributors' home country
- Bank contact points within GVC anchors and suppliers tend to be with finance and treasury people whereas in many cases the procurement office would be a more appropriate point of contact

Technological/regulatory impediments:

- Lack of a standard technology with respect to corporations', banks' and technology service providers' supply chain financing platforms - which increases complexity and costs for users
- Lack of automation within the financial supply chain and of connectivity with the physical supply chain
- Challenges associated with the development of technology solutions that allow for the provision of multiple forms of SCF solutions as well as other trade-related bank services (e.g. cash management and treasury)
- Lack of confidence in electronic security and the legality of electronic signatures or complex e-security processes²⁸
- Accounts payables have at times been treated as bank debt (notably in the United Kingdom and in the United States) when processed through supplier payment programs – which acts as a deterrent to their adoption for some GVC anchors²⁹
- Basel III could increase the cost or reduce the supply of SCF due to a proposed increase on capital requirements for trade finance transactions³⁰

²⁷ Banks don't have to develop their own SCF platforms. They can use, instead, applications developed by technology service providers or by other banks. Nevertheless, for strategic reasons some banks wish to differentiate themselves from their competitors through their SCF platform and do not wish to become dependent on an external party's technology. For more on this issue, see Liz Salecka, "Accelerating Supply Chain Finance" *Global Trade Review*, September/October 2009.

²⁸ For example, Canada's current regulations on electronic signatures, adopted in 2005, include stringent requirements for an electronic signature to be treated as "secure" and thus equivalent to a manual signature affixed on a paper document. For the text of the regulation see *Secure Electronic Signature Regulations [SOR/2005-30]* at <http://laws.justice.gc.ca>.

²⁹ The reclassification of trade payables as bank debt can be problematic if it leads to loan covenants relating to bank indebtedness to be breached or if the reclassification stands to significantly distort a GVC anchor's financial ratios (e.g. days payable outstanding).

³⁰ BAFT-IFSA (2010), "Joint Industry Letter Warns Basel III Could Slow Economic Recovery", News Release, November 2, 2010. The Canadian Bankers Association is a member of BAFT-IFSA.

The Outlook for Supply Chain Finance

Many efforts have been deployed by GVC anchors and other GVC participants over the past few years to extract as much cash as possible from accounts receivables, accounts payables and inventory. As a result, and in light of the tentativeness of the economic recovery, further use of conventional (i.e. non-SCF) approaches by GVC members to improve their cash conversion cycle appears impractical. This was confirmed in a survey conducted in 2010 where sixty-three per cent of European corporations believed that some of their key suppliers would not be able to sustain a further lengthening of payment terms.³¹ The demand for SCF is therefore expected to grow in the future based, in large part, on the ability that SCF solutions provide to improve the cash conversion cycle of GVC anchors without bringing about detrimental cost shifting within the value chain.

Supply-side issues may unfortunately make it difficult to meet this expected rise in SCF demand. Financial institutions remain very cautious when deploying their capital in the current post-crisis environment. The new, more stringent, Basel III capital requirements will almost certainly add to this caution. These factors, combined with the relatively low risk-adjusted rates of return that SCF solutions generate, may therefore make it difficult for banks to meet the increased demand for SCF.

Over the coming years, the priority of banks that offer SCF solutions will likely be on servicing existing corporations, on trying to acquire new investment grade accounts and, for those with proprietary SCF platforms, on competing with technology service providers. Although the reach of the latter should continue to expand in the future, their ability to grow will ultimately depend on how much credit capacity banks are willing to dedicate to SCF. In this context, non-bank financial institutions are expected to play a more active role in responding to rising SCF demand. A rise in the offer of new short-term financing solutions, such as The Receivables Exchange, is also to be expected.³²

Concerning technology, the presence in the market of non-compatible SCF platforms (i.e. those offered by banks and technology service providers or developed in-house by GVC anchors) is expected to continue over the short to medium term. Many corporations and global banks have made significant investments in SCF technology that they will want to recover. Over time, however, it may become difficult for these organizations to justify spending considerable sums of money to maintain, develop and upgrade their in-house applications when state-of-the-art technology can be purchased or obtained as a managed service at a lower cost. The recent rise in popularity of “bank neutral” SCF platforms (i.e. not funded and operated by a single financial institution) offered by technology service providers should also help reduce the number of different platforms available on the market. Some GVC anchors appreciate these SCF platforms as they allow them to spread

It was a signatory to a letter issued on the same day as the news release which expressed the concerns of many BAFT-IFSA members over the impact of new Basel III capital requirements on the availability and cost of trade finance.

³¹ Demica, June 2010 report, *op. cit.*, p. 7.

³² The Receivables Exchange (www.receivablesxchange.com) is an online marketplace for real-time trading of accounts receivable that was created in 2007. Receivables on the Exchange are sold by American companies (typically small and medium-sized enterprises) and purchased by a global network of accredited institutional investors. Just like SCF, the Exchange constitutes an alternative to traditional trade finance methods that can help provide liquidity to GVC participants through a cost-effective mechanism. Unlike SCF, however, the Exchange only allows accounts receivable (and not buyer-approved invoices or purchase orders) to be sold and does not help strengthen ties between GVC participants.

their funding sources. Certain banks also appreciate them as they help them diversify their credit exposures. Finally, as opposed to competing for the business of both the GVC anchor and its suppliers, banks are beginning to partner more frequently using common SCF platforms. For all of these reasons, a smaller number of interoperable SCF platforms is expected to characterize the SCF marketplace over the medium term. This in turn should help make SCF solutions accessible to a larger number of GVC participants.

In regards to automation and connectivity between the physical and financial supply chains, many (often regional) initiatives are expected to greatly accelerate the adoption of e-invoicing and the elimination of printed commercial, transport and customs documents over the coming years. The more prominent plans being developed include APEC's Strategies and Action Toward a Cross-Border Paperless Trading Environment, the Pan-Asia E-Commerce Alliance, the European Commission's European Electronic Invoicing Framework, SWIFT's Trade Services Utility and both APEC's and ASEAN's Single Window Initiatives.³³ The elimination of paper and true codification of documents (as opposed to simply scanning them) achieved through the above plans will eventually save time and money for GVC members. They will also stimulate the development of interoperable platforms that permit the processing and tracking of physical and financial supply chain data and events. Finally, they will create opportunities for banks to provide financing and other financial services at various points along the financial supply chain.³⁴

Supply Chain Finance in Canada

There are few publicly-available statistics to quantify the adoption rate for SCF in Canada. The consensus viewpoint, however, is that SCF remains nascent in Canada. In addition to factors hindering the growth in SCF globally, issues specific to the Canadian marketplace delay the use of SCF by Canadian members of GVCs.

On the demand side, the difficulty that Canadian suppliers face when trying to get their bankers to carve out receivables owed by GVC anchors from existing security agreements has had a restraining effect on demand for SCF in Canada. Also, the comparatively low use of factoring by Canadian companies (except in a few industries, such as apparel) may have indirectly depressed demand for SCF.³⁵ As well, supply chain management practices in Canada have tended (to date) to discourage the adoption of SCF since a relatively small proportion of Canadian businesses view their supply chains in a strategic manner. For this reason, few companies are equipped from an internal process

³³ Single window initiatives aim to facilitate the acquisition by exporters and importers of all government approvals that they require through a unique point of access. They are being developed at both regional and national levels. In Canada, the Canada Border Service Agency is responsible for the development and implementation of the country's single window initiative. For more details on the main regional and national single window initiatives, including that of Canada, consult the World Customs Organization's website at www.wcoomd.org.

³⁴ For example, banks could offer buyers and suppliers document matching and reconciliation services (e.g. verifying that the commercial invoice, transport, insurance and customs documents contain consistent information that matches with the original purchase order). They could also better price loans based on the knowledge of when a specific financial supply chain event has taken place (e.g. a GVC anchor has received goods and approved a supplier's invoice).

³⁵ In Canada, factoring is commonly perceived as a financing tool reserved for companies with weak financials. This negative stigma could have a moderating effect on the degree of interest of Canadian exporters for supplier payment programs which, like factoring, involve the early discounting of amounts to be paid by buyers.

(e.g. collaboration between finance and procurement) and technology perspective (e.g. use of e-invoicing) to take advantage of the benefits that SCF solutions can bring.

On the supply side, the offer for SCF solutions is limited at present in Canada. Although most Canadian financial institutions provide customized receivables purchase programs for their large corporate clients, only a small number have developed supplier payment programs or distributor financing solutions.³⁶ The absence of legislation in Canada on *electronic* bills of exchange is a source of concern for some Canadian banks.³⁷ More fundamentally, the limited number of investment-grade GVC anchors in Canada tends to make it a relatively unattractive market to pursue for Canadian and global banks and for technology service providers.³⁸ Also, SCF solutions compete with traditional bank lending and trade finance products while offering lower risk-adjusted returns. Lastly, Canadian financial institutions have been reluctant to partner with each other to offer SCF solutions, preferring instead to compete for the business of both buyers and suppliers.

On the technological front, as indicated previously Canada (just like the United States) lags the rest of the world with respect to the use of electronic payments and it will probably take at least a decade before the gap between payment practices in Canada and those observed in leading-edge jurisdictions (such as Finland) is narrowed. Canada also lags Europe, Asia and parts of Latin America considerably in regards to replacing paper-based business and trade documentation with electronic versions. These delays hurt the competitiveness of Canadian segments of GVCs by slowing the adoption of today's technology-driven SCF solutions.

Canadian suppliers potentially at risk

An important present-day trend in supply chain management involves GVC anchors reducing the number of their suppliers and simultaneously developing closer ties with remaining suppliers. SCF solutions can help develop strong ties between trading partners and are expected to be used in part for this purpose by GVC anchors in the future. Because of the low rate of automation of financial flows and the limited offer for SCF in Canada, some Canadian exporters may be at risk of being excluded from the supplier base of American and foreign GVC anchors. The reluctance of many global SCF banks (with which these GVC anchors work) to perfect their security interests in Canada and to fulfill know-your-client rules with Canadian-based suppliers compounds this risk.³⁹

³⁶ At time of writing, the Bank of Montreal, National Bank and the Bank of Nova Scotia were the main Canadian financial institutions that offered, in varying degrees, supplier payment programs.

³⁷ A bill of exchange (often called a draft) is a commonly used financial instrument in international trade transactions. It is an unconditional order in writing from the exporter to the importer requiring the importer, if it accepts the order, to make payment on demand to the exporter on the payment due date.

³⁸ At time of writing, Citi and HSBC were the only global banks actively promoting their SCF services in Canada.

³⁹ Know-your-client (KYC) rules correspond to the due diligence that banks are required to perform to identify their clients and confirm relevant information prior to doing business with them. KYC rules aim to combat, in particular, money laundering, terrorism financing and identity fraud. When a bank does not have a significant footprint in Canada, performing this due diligence can be costly and time consuming. The same issue arises with respect to the perfection of banks' security interests (i.e. it is more complex for foreign banks with a minimal presence or no presence at all in Canada to secure their rights and title to Canadian suppliers' foreign receivables).

From a public policy perspective, a rationale appears to exist to support the participation of Canadian exporters in GVCs through measures that support the conversion of electronic documentation and payment systems and that stimulate the availability of SCF solutions for firms that would like to obtain them. Working in collaboration with Canadian financial institutions, Export Development Canada (EDC) already provides some forms of SCF support, particularly in respect of the auto sector where supply chain financing has been used for many years. Given current market conditions for SCF in Canada, EDC is presently examining various ways to facilitate access to SCF in order to safeguard Canadian exporters' current and future participation in GVCs. Injecting liquidity into supplier payment programs put in place by global SCF banks (who are typically eager to transfer risk off their balance sheets) could be one way to encourage these banks to overcome their reluctance to include Canadian suppliers in supplier payment programs developed for GVC anchors.

Better supporting Canadian upstream GVC suppliers

Most SCF solutions today are enacted between GVC anchors and their direct (i.e. tier 1) suppliers. Given the limited number of Canadian GVC anchors, any significant SCF growth in Canada will need to take place through the tapping, by banks and technology service providers, of new segments along the financial supply chain. One of these segments is non-investment grade Canadian exporters.⁴⁰ Making supplier payment programs available to non-investment grade exporters in Canada would improve the efficiency of their financial supply chains and help them consolidate their position within the GVCs in which they participate. Another segment is Canadian sub-suppliers (i.e. suppliers more than one step removed from the Canadian exporter). Increasing the offer of SCF solutions to Canadian sub-suppliers could play an important role in enhancing the competitiveness and stability of Canadian segments of GVCs by improving small Canadian suppliers' access to capital.

Improving financial flows within all portions of GVCs may soon become the next frontier that helps further enhance GVC collaboration, effectiveness and cost control objectives. Canadian banks are well-positioned to deliver SCF solutions to non-investment grade Canadian exporters and to lower tier Canadian suppliers since they act, in the majority of cases, as their primary bank. However, as previously outlined, many factors currently restrain the appetite of Canadian financial institutions with regards to SCF. Enhanced collaboration between Canadian banks and global banks, technology service providers and credit insurers could make it easier for Canadian banks to offer SCF solutions to non-investment grade Canadian GVC members. For instance, a large number of global banks license their SCF technology. To reduce the costs of implementing an SCF program, Canadian banks could look at leveraging those infrastructures which are expensive to develop, maintain and upgrade. Another example might be for Canadian banks to work more closely with credit insurers in order to mitigate their exposure to non-investment grade Canadian GVC participants. Unfortunately, cooperation of this nature is unusual in today's marketplace which is why a public policy response may be warranted in order to help address these gaps. The issue of financing gaps in Canada and how SCF solutions could help fill some of these gaps is explored in the next section.

⁴⁰ Some non-investment grade Canadian exporters can represent good quality credits. They may just be too small to be rated, thus officially making them non-investment grade.

Supply Chain Finance in Canada: A Solution for Credit Market Gaps?

The current state of SCF in Canada suggests elements of credit market failure are at play. The common view is that financing gaps, especially for smaller companies, arise when companies are unable to obtain as much debt as they request. Riding and Belanger note that these credit shortfalls are not evidence of financing gaps, as not all applications for credit should be granted.⁴¹ The OECD further notes that the “supply of credit is not inexhaustible” and that some borrowers will be turned down due to the normal operations of credit allocation within capital markets.⁴² Riding and Belanger succinctly summarize the literature on what constitutes a credit market gap:

1. among loan applicants who appear identical, some receive credit while others do not; or,
2. there are identifiable groups in the population that are unable to obtain financing at any price.

Empirical studies and surveys indicate financing gaps do exist in Canada and elsewhere.⁴³ Credit rationing affects smaller and new firms more so than larger firms and can be viewed as a natural state of affairs resulting from gaps in the credit markets.⁴⁴ As a firm grows in size, its access to credit becomes easier and less costly. The end result is smaller firms have less capacity to take advantage of growth opportunities. The evidence further suggests this outcome is more pronounced for exporters.⁴⁵

Economic theory argues that market gaps arise in the presence of information asymmetries and externalities. Information asymmetries occur when the borrower (e.g. small company) and lender (bank) do not share the same information. In the case of financing, banks often lack complete information on companies’ credit profiles, leading to restrictions on lending. Externalities refer to situations in which a cost or benefit is borne by parties outside the activity. A positive externality occurs when the activity being undertaken provides benefits to third parties. In such cases however, the good or service will be underproduced. The producer will only supply enough to maximize its own internal profits, which means that all of the benefits that could have accrued to third parties are not fully realized.

In the past few years, supplier payment programs have become largely synonymous with what most people consider to be a SCF program. The discussion here therefore focuses on supplier payment programs. A study on SCF by the Bank of England notes two key characteristics of these types of programs.⁴⁶ First, the buyer (not the lender) takes responsibility for the supplier (e.g. quality of goods, return of faulty goods, etc). Second, the cost of financing for GVC participants is based on the credit rating of the buyer and not the individual suppliers. The deployment of SCF programs can therefore address some

⁴¹ Allan Riding and Brad Belanger (2007), “Minding the Gap: Assessment of Financing Gaps Related to SME Exporters in Canada”, University of Ottawa School of Management and Industry Canada.

⁴² OECD, “The SME Financing Gap, Volume 1: Theory and Evidence”, 2006.

⁴³ *Ibid.* and Hall, Peter and Todd Evans, “Minding the Gap: An EDC Assessment of Financial Intermediation Gaps in Canada,” Export Development Canada, 2005.

⁴⁴ OECD, International Conference on SMEs, Entrepreneurship and Innovation, Issues Paper, 2009.

⁴⁵ Riding and Belanger, *op. cit.*

⁴⁶ Bank of England, “Supply Chain Finance”, Report of the Supply Chain Finance Working Group, July 2010.

of the credit gap faced by small companies - by removing information asymmetries, and by capturing positive externalities.

1. *Information asymmetry.* In this case, the bank lacks sufficient credit information to extend financing to all suppliers and sub-suppliers in the GVC. Without adequate financial information for suppliers in the GVC, banks tend to restrict financing to a small number of large suppliers where detailed credit info is easier to obtain. The end result is restricted access to credit, and more stringent payment and delivery terms across the entire value chain. However, when a GVC anchor or buyer takes on the risks of its suppliers, the informational asymmetry is effectively removed as the bank now only has to understand the credit risk of the buyer. This allows the lender to extend credit to multiple suppliers selling to an identified buyer within a GVC.
2. *Positive externalities.* A positive externality exists when the bank's costs of establishing a SCF platform outweighs its own benefits, which leads the bank to restrict any development of a SCF platform, even though third parties would benefit. Presently, SCF services are offered to GVC anchors and a limited number of larger suppliers. Many of Canada's smaller suppliers and sub-suppliers would benefit from a SCF program through lower financing costs, lower administrative costs, and increased sales. But the SCF service is "under-produced" because a common platform is not available to a wider number of suppliers. This is a case where the bank's "private" benefits do not justify their costs, thereby leading to an undersupply of the good in question, and reducing the "social" benefits to third parties. With a SCF platform available to more suppliers, the demand for such service is created, which allows the cost savings to be captured by more of the GVC participants.

There appears to be a SCF gap in Canada given that more suppliers are likely to use SCF programs if given the opportunity. SCF programs accessible to a larger number of upstream suppliers (i.e. tier 2 and 3) can help address credit market imperfections, and potentially increase the supply of credit to smaller companies. A common platform where financial information on GVC buyers and suppliers can be accessed easily by SCF providers would reduce information asymmetries, and reduce bankers' apprehension in extending credit and other payment terms to a larger number of GVC participants.

The size of the Canadian customer base that is currently able to meet the eligibility criteria for SCF support is small. This limits the scale economies required for most financial institutions to justify the cost of establishing a comprehensive range of SCF programs for the benefit of Canadian exporters and their suppliers. The lack of scale raises the cost of these programs, effectively creating a barrier for financial institutions (whether Canadian or foreign) to expand their financial services in this space. The end result is a small number of SCF providers operating in Canada, which creates an oligopolistic situation that reduces the availability of SCF products for Canadian companies that are members of GVCs.

Given the relatively smaller number of GVC anchors and tier-1 suppliers in Canada, offering SCF programs further upstream along GVCs (i.e. to more sub-suppliers) can provide the necessary critical level of revenues to financial institutions to justify the cost of establishing and maintaining a SCF infrastructure. Economic theory argues that banks and financial service providers need a customer base of sufficient size in order to diversify and reduce risk. Although the majority of new customers in a GVC are likely to be small sub-suppliers and carry relatively more risk, spreading this risk across a larger pool of

companies reduces the potential downside of one or more firms failing.⁴⁷ But improving access to credit does not complete the story here - as identified previously, there are many other impediments to the participation of Canadian suppliers of all sizes in SCF programs (e.g. low usage rate of e-invoicing and e-payment; negative perception of programs that allow for the discounting of accounts receivable, etc.).

Role of Public Policy

Smaller companies typically face constraints in accessing credit. Fallout from the recent financial crises suggests financing will remain relatively tight through the next few years, as banks and other lenders maintain cautious lending practices. SCF programs offer a means to alleviate credit shortfalls. In addition, SCF programs reduce costs and introduce efficiencies across the entire value chain - to the benefit of individual participants and the broader economy.⁴⁸ The economy-wide benefits and competitive gains stemming from SCF programs provides motivation for public sector participation in SCF technology and related infrastructure (e.g. through a cost-sharing with banks and industry associations). The broader economic and financial payback of SCF infrastructure suggests government could play a policy role in catalyzing the formation of a SCF platform, possibly through direct investment and technical support, or indirectly via regulatory changes and tax credits.

On the trade side, the relative absence of GVC anchors and SCF platforms in Canada suggests Canadian companies are at a disadvantage in competing for business in international markets. Canadian trade and investment policy should therefore consider strategies to improve Canadian companies' access to global SCF platforms. These strategies could be included in bilateral and multilateral negotiations. Adopting such policies could broaden Canada's commercial connections to non-US markets, potentially allowing more Canadian companies to tap into faster growing emerging markets.

Conclusion

The interest in SCF has risen considerably in Europe and the United States over the past five years. In Canada, a variety of factors have led to a more subdued interest in SCF, but this is slowly changing. During this recent period, an increasing number of GVC participants have realized that the traditional arm-wrestling relationship between buyers and suppliers is detrimental to overall GVC competitiveness and resiliency. As a result, demand rose during the credit crisis and continues to rise today for innovative financing solutions that permit GVC companies to improve their cash conversion cycles without negatively impacting other GVC members.

SCF solutions can help achieve such an outcome. They can also reduce financial supply chain inefficiencies by encouraging process automation and providing greater visibility and predictability throughout the sequence of financial supply chain events. Further, they give financial institutions the opportunity to offer financing triggered by financial supply chain events and to deliver new value-added services by leveraging the data flowing through their SCF platforms. Ultimately, all of these benefits allow GVCs

⁴⁷ By participating in a GVC and having access to SCF, a small sub-supplier is likely to carry less risk, on average, compared with an independent supplier not associated with a GVC.

⁴⁸ Bank of England, *op. cit.*

and GVC companies to become more cost-efficient, stable and successful, which explains why demand for SCF solutions is expected to continue growing over the coming years.

Unfortunately, supply-side issues are likely to limit the access to SCF solutions in all major markets over the near to medium term. Even sizeable GVC anchors with robust balance sheets and high trading volumes may find it difficult to obtain the amounts of SCF support they require due, in part, to banks' limited desire to hold large trade finance exposures. As we have seen, a number of additional issues curtail even further the availability of SCF in Canada. These include the restrained appetite of Canadian banks for SCF and the reported reluctance of some global banks to include Canadian exporters in supplier payment programs. A shortage of SCF could jeopardize the export sales of some Canadian exporters that sell to U.S. or foreign-based GVC anchors. It could also hamper the competitiveness of Canadian segments of GVCs by preventing Canadian suppliers and sub-suppliers from accessing new technology platforms and cost-efficient forms of short-term capital. For these and other reasons outlined in this paper, a public policy response could be in order to help correct the observed gaps in the availability of SCF solutions in Canada. Future research in this area would ideally aim to quantify the current SCF gap as well as the costs associated with the existence of this gap.

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