The Role of "Reverse Factoring" in Supplier Financing of Small and Medium Sized Enterprises

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Around the world, factoring is a growing source of external financing for corporations and small and medium-size enterprises (SMEs). What is unique about factoring is that the credit provided by a lender is explicitly linked on a formula basis to the value of a supplier's accounts receivable – the sale payments due from customers – and not the supplier's overall creditworthiness. Therefore, factoring allows high-risk suppliers to transfer their credit risk to their high-quality buyers. Factoring may be particularly useful in countries with weak secured lending laws, inefficient bankruptcy systems, and imperfect records of upholding seniority claims, because receivables factored without recourse are not part of the estate of a bankrupt SME. Factoring can also mitigate the problem of borrowers' informational opacity in business environments with weak information infrastructures if only receivables from high-quality buyers are factored, as is the case in "reverse factoring" arrangements.

This paper discusses the Nafin reverse factoring program and highlights how the use of electronic channels can cut costs and provide greater SME services in emerging markets. By creating "chains" of small suppliers and big buyers, Nafin can offer low-cost factoring without recourse, which is an important source of financing and improves the balance sheet of small firms. The success of the Nafin program depends on the legal and regulatory support offered in Electronic Signature and Security laws that should be a model for other developing countries.

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Chapter 1: Introduction

A challenge for many small businesses is access to bank financing. In particular, many firms find it difficult to finance their production cycle, since after goods are delivered most buyers demand 30 to 90 days to pay. Sellers issue an invoice – recorded for the buyer as an account payable and for the seller as an account receivable – which is an illiquid asset for the seller until payment is received. Factoring is a type of supplier financing in which firms sell their credit-worthy accounts receivable at a discount (equal to interest plus service fees) and receive immediate cash. Factoring is not a loan. There is no debt repayment and no additional liabilities on the firm's balance sheet, although it provides working capital financing. In addition, most factoring is done "without recourse", meaning that the firm that purchases the receivables, referred to as "the factor", assumes responsibility for the buyers ability to pay. Factoring is a comprehensive financial service that includes credit protection, accounts receivable bookkeeping, collection services and financing.

Factoring is used in developed and developing countries around the world. In 2003, total worldwide factoring volume was over US$ 750 billion, as the result of an impressive growth rate of 135% in the five-year period 1996-2003. In some developed economies such as the US, its importance as a primary source of working capital finance tends to be concentrated in selected industries. In other developed economies such as Italy, however, its importance as a primary source of working capital appears to be much more widespread. As shown in Tables 1, both domestic and international factoring is beginning to emerge as a major source of financing in developing economies.

The global pattern of factoring suggests that it may have an advantage compared to other types of lending, such as loans collateralized by fixed assets, under certain conditions. Factoring appears to be a powerful tool in providing financing to high-risk informationally opaque borrowers. Its key virtue is that underwriting in factoring is based on the risk of the accounts receivable themselves rather than the risk of the borrower. For example, factoring may also be particularly well suited for financing receivables from large or foreign firms when those receivables are obligations of companies who are more creditworthy than the factoring client itself.

Factoring may also be particularly important in financial systems with weak commercial laws and enforcement and inefficient bankruptcy systems. Like traditional forms of commercial lending, factoring provides small and medium enterprises (SMEs) with working capital financing. However, unlike traditional forms of working capital financing, factoring involves the outright purchase of the accounts receivable by the factor, rather than the collateralization of a loan. The virtue of factoring in a weak business environment is that the factored receivables are removed from the bankruptcy estate of the borrower and become the property of the factor.

Table 1: 2003 Factoring Turnover By Country (in Millions of EUR)

Companies	Domestic	International	Total	5-Yr Growth Rate
Argentina	65	5	70	-95%
Australia	13,656	60	13,716	169%
Austria	2,598	334	2,932	46%
Baltics	2,012	250	2,262	381%
Belgium	9,500	2,000	11,500	51%
Brazil	12,000	40	12,040	-29%
Canada	2,131	1,030	3,161	62%
Chile	3,300	200	3,500	35%
China	2,400	240	2,640	8416%
Costa Rica	180	5	185	-18%
Cuba	30	63	93	-50%
Czech Rep	1,600	280	1,880	141%
Denmark	3,570	2,000	5,570	66%
El Salvador	100	2	102	.
Finland	8,545	265	8,810	56%
France	68,200	5,000	73,200	38%
Germany	27,131	7,951	35,082	76%
Greece	3,500	180	3,680	333%
Hong Kong	2,000	1,250	3,250	81%
Hungary	1,080	62	1,142	693%
India	1,500	115	1,615	528%
Indonesia	1	0	1	-97%
Ireland	8,800	50	8,850	44%
Israel	20	170	190	-13%
Italy	124,510	8,000	132,510	51%
Japan	60,000	550	60,550	9%
Lebanon	35	0	35	.
Malaysia	690	28	718	-11%
Mexico	4,435	100	4,535	28%
Morocco	130	30	160	181%
Netherlands	16,000	1,500	17,500	-15%
New Zealand	250	13	263	43%
Norway	6,800	825	7,625	79%
Oman	10	0	10	-52%
Panama	160	0	160	1355%
Poland	2,450	130	2,580	326%
Portugal	11,828	353	12,181	64%
Romania	90	135	225	508%
Russia	470	15	485	.

Table 1: 2003 Factoring Turnover By Country (in Millions of EUR), Cont.

Companies	Domestic	International	Total	5-Yr Growth Rate
Saudi Arabia	50	0	50	.
Singapore	2,060	375	2,435	24%
Slovakia	296	88	384	140%
Slovenia	140	30	170	386%
South Africa	5,350	120	5,470	2%
South Korea	0	38	38	-100%
Spain	36,443	1,043	37,486	199%
Sri Lanka	94	8	102	65%
Sweden	9,650	1,300	10,950	45%
Switzerland	1,298	216	1,514	16%
Taiwan	11,700	4,300	16,000	666%
Thailand	1,400	25	1,425	41%
Tunisia	160	50	210	188%
Turkey	4,200	1,130	5,330	2%
U.S.A.	77,496	3,200	80,696	-8%
UAE	36	1	37	.
UK	158,270	2,500	160,770	56%
TOTAL	712,657	47,735	760,392	37%

Source: Factor Chain International, http://www.factors-chain.com.
Growth rates equal to "." indicate values of zero in 1999.

Chapter 2: The Mechanics of Factoring

In factoring, the underlying assets are the seller's accounts receivable, which are purchased by the factor at a discount. The remaining balance is paid to the seller when the receivables are received, less interest and service fees. For example, most factors offer sellers financing up to 70% of the value of an account receivable and pay the remaining 30% – less interest and service fees – when payment is received from the buyer. In general, financing is linked on a formula basis to the value of the underlying assets, e.g., the amount of available financing is continuously updated to equal a percentage of available receivables.

Box 1: The mechanics of factoring

Step 1: Small Supplier, **S**, sells 1 million in tomatoes to its customer Big Buyer, **B**, a large multinational exporter. **S** in a competitive gesture offers **B** 30-days trade credit. **S** records the sale as 1 million in accounts receivable and **B** records the purchase as 1 million in accounts payable.

Step 2: **S** needs working capital to produce more inventory. A factor, **F**, purchases **S**'s accounts receivable (**S** "assigns" its accounts receivable from **B** to **F**). **S** receives today 70% of the face value of the accounts receivable (700,000). **B** is notified that **S***'s* receivables have been factored.

Step 3: In 30 days, **F** receives the full payment directly from **B**, and **S** receives the remaining 30% less interest (on the 700,000) and service fees.

An important feature of the factoring relationship is that a factor will typically advance less than 100% of the face value of the receivable even though it takes ownership of the entire receivable. The difference between this advance amount and the invoice amount (adjusted for any netting effects such as sales rebates) creates a reserve held by the factor. This reserve will be used to cover any deficiencies in the payment of the related invoice. If and when the invoice is paid in full, the reserve amount is remitted by the factor to its client.[1, 2] A typical advance rate might be 70%, which establishes a 30% reserve. Thus, even in non-recourse factoring there is risk sharing between the factor and the client in the form of this reserve account.

In most cases there are additional fees beyond the commission associated with various components of the factoring relationship. For example, interest may be charged

[1] The availability of this reserve account to cover deficiencies may vary. As described above the reserve is applied only to the invoices of a specific account. Alternatively, the factoring contract could permit the reserves against one account to be applied to deficiencies in other accounts.

[2] The reserve account represents a liability of the factor to its client. In effect, the client has extended contingent credit to the factor which exposes the client to risk. As a result, if the factor becomes insolvent the client will become a general creditor of the factor and will be exposed to a potential loss up to the amount of the reserve. Thus, from the client's perspective the reputation and creditworthiness of the factor may be an important consideration.

on the outstanding balance of receivables or on the balance on receivables outstanding more than a fixed number of days. Alternatively, the interest could be fixed and included in the commission. In short, the fees and expenses associated with a factoring relationship vary from relationship to relationship. In addition to interest fees, these may include some or all of the following:[3] application fee, credit checking fees, origination fee, pre-contract due diligence fees—to conduct on—and off-site reviews of client's books and records, public records searches for tax liens or judgments, lawsuits, bankruptcy filings, administrative actions, news items, press releases, etc.

Factoring can be done either on a "non-recourse" or "recourse" against the factor's client (the sellers). In non-recourse factoring, the lender not only assumes title to the accounts, but also assumes most of the default risk because the factor does not have recourse against the supplier if the accounts default. Under recourse factoring, on the other hand, the factor has a claim (i.e., recourse) against its client (the "borrower") for any account payment deficiency. Therefore, losses occur only if the underlying accounts default and the borrower cannot make up the deficiency. In developed countries it appears that factoring is more frequently done on a non-recourse basis. In Italy, for example, 69% of all factoring is done on a non-recourse basis (Muschella 2003). Similarly, a study of publicly traded firms in the U.S. found that 73% of firms factored their receivables on a non-recourse basis, but that both sellers with poorer quality receivables and sellers who, themselves, were higher quality were more likely to factor with recourse (Sopranzetti 1998). Since in emerging markets it is often problematic to assess the default risk of the underlying accounts, most factoring is done on a recourse basis.[4]

In addition, factoring can be done on either a notification or non-notification basis. Notification means that the buyers are notified that their accounts (i.e., their payables) have been sold to a factor. Under notification factoring, the buyers typically furnish the factor with delivery receipts, an assignment of the accounts and duplicate invoices prepared in a form that indicates clearly to the supplier that their account has been purchased by the factor.

Factoring can be viewed as a bundle of activities. In addition to the financing component, factors typically provide two other complementary services to their clients: credit services and collection services. The credit services involve assessing the creditworthiness of the borrower's customers whose accounts the factor will purchase. Factors typically base this assessment on a combination of their own proprietary data and publicly available data on account payment performance. The collection services involve the activities associated with collecting delinquent accounts and minimizing the losses associated with these accounts. This includes notifying a buyer that an account is delinquent (i.e., past due). and pursuing collection through the judicial system.

[3] This list of fees and expenses is from "Factoring: Modern American Style" by Richard G. Worthy presented at the World Bank Conference on "The Factoring Industry as a Key Tool for SME Development in EU Accession Countries", October 23-24, 2003.

[4] An exception is the factoring of foreign receivables in some emerging markets, such as Eastern Europe, which typically also involve some form of credit insurance.

Essentially, SMEs that utilize a factor are, in effect, outsourcing their credit and collection functions to their factor. This represents another important distinction between factors and traditional commercial lenders.

A factor may enjoy a number of important advantages in offering credit and collection services along with its funding services. First, it may enjoy significant economies of scale in both of these activities relative to its clients. Because the factor is handling these services for a large number of different clients it can amortize the fixed costs associated with these activities. Also, most small SMEs likely have very little expertise in either of these two areas. Most entrepreneurs likely have backgrounds on the product side of their businesses and not the finance side. Finally, factors generate their own proprietary databases on account payment performance. The largest factors essentially become the equivalent of large credit information exchanges essentially offering an alternative source of information to private commercial credit bureaus and public credit registries. They would also enjoy the same economies of scale in information exchange that the credit bureaus and public credit registries do.[5]

These credit and collection services are often especially important for receivables from buyers located overseas. For example, Export Factoring – the sale of foreign receivables – can facilitate and reduce the risk of international sales by collecting foreign accounts receivables. The factor is also required to do a credit check on the foreign customer before agreeing to purchase the receivable, so the approval of a factoring arrangement also sends an important signal to the seller before entering a business relationship. This can facilitate the expansion of sales to overseas markets.

Box 2: An example of an international factoring transaction

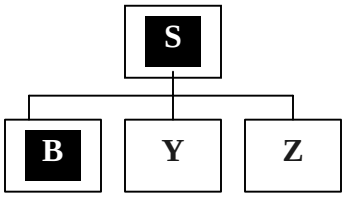
Take the example of a Moroccan firm that sells its goods to a large French company, which demands 60 days credit. A Moroccan factoring company will typically contact a factoring company in France – via Factor Chain International, a worldwide association of factoring companies – who will do a credit check on the buyer. If the buyer is approved, the Moroccan factor will pay the Moroccan seller 70% of the face value of the receivable, and the French factor, for a fee, will take on the responsibility of collecting the amount due from the French buyer. This setup allows firms in emerging markets to sell their goods overseas without facing the difficulties of overseas collections. In addition, the French factor must conduct a credit check before agreeing to factor the French buyer, which reduces the sellers need to do due diligence on potential buyers. Because the trade credit extended by the Moroccan seller can be easily converted into cash, the Moroccan firm is able to offer more competitive terms to its customers. Finally, the Moroccan firm is able to improve its own risk management, by reducing its credit and exchange rate risks.

[5] See Kallberg and Udell (2003b) for a discussion and model of economies of scale in credit information exchanges.

Chapter 3: The Advantage of "Reverse Factoring"

Drawing from the example in Box 1 in Chapter 2, Figure 1 show that in ordinary factoring, the small firm **S** sells all its receivables – from various buyers (**B**, **Y**, **Z**, etc.) – to a factor. The factor must collect credit information and calculate the credit risk for **B**, **Y**, **Z**, etc, etc.

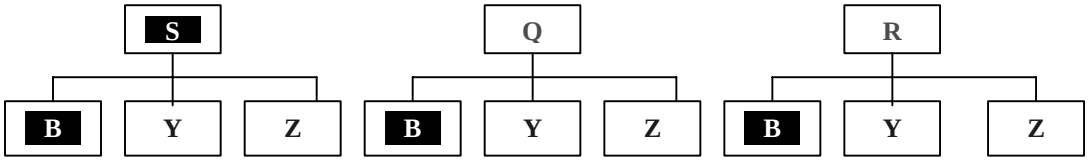
Figure 1: Ordinary Factoring



Ordinary factoring has in general not been profitable in emerging markets. First, if good historical credit information in unavailable, then the factor takes on large credit risk. Second, fraud is a big problem in this industry – bogus receivables, non-existing customers, etc. – and a weak legal environment and non-electronic business registries and credit bureaus make it more difficult to identify these problems. An alternative usually used in emerging markets is for the factor to buy receivables "with recourse", which means that the seller is accountable in the case that a buyer does not pay its invoice, and that the seller of the receivables (in our example, **S**) retains the credit risk. However, this may not really reduce the factor's exposure to the credit risk of **S**'s customers, since in the case of a customer's default, **S** may not have capital reserves to repay the factor.

Figure 2 shows the mechanics of "Reverse Factoring". In this case, the lender purchases accounts receivables only from high-quality buyers (e.g. any receivable owed by **B** from any suppliers, including **S, Q,** and **R***)*. The lender only needs to collect credit information and calculate the credit risk for **B** (in this case a large, very transparent, internationally accredited firm). **In Reverse Factoring, the credit risk is equal to the default risk of the high-quality customer, and not the risky SME**. This arrangement allows creditors in developing countries to factor "without recourse" and provide low-risk loans to high-risk SMEs.

Figure 2: "Reverse Factoring"



Reverse factoring may be particularly beneficial for SMEs for a number of reasons. First, as shown in these figures, ordinary factoring requires comprehensive credit information on all the borrower's customers, which may be difficult and costly to determine in countries with weak credit information systems. Second, reverse factoring

allows firms to transfer their credit risk and borrow on the credit risk of its creditworthy customers. This may allow firms to borrow greater amounts at lower costs. Third, factoring only requires the legal environment to sell, or assign, accounts receivables. Factoring does not require good collateral laws or efficient judicial systems.

Another advantage of reverse factoring is that it provides benefits to lenders and buyers as well. Lenders are able to develop relationships with small firms (with high quality customers) without taking on additional risk. This may provide cross-selling opportunities and allows the lender to build a credit history on the small firm that may allow additional lending (for fixed assets, for example). The large buyers may also benefit: by engineering a reverse factoring arrangement with a lender and providing its customers with working capital financing, the buyer may be able to negotiate better terms with its suppliers. For example, buyers may be able to extend the terms of their accounts payable from 30 to 60 days. In addition, the buyer benefits from outsourcing its own payables management (e.g. the buyer can send a payment to one lender rather than many small suppliers). A detailed account of the benefits to suppliers and lenders is discussed in Chapter 4.

Chapter 4: The Benefits and Challenges to Reverse Factoring in Emerging Markets

Factoring is quite distinct from traditional forms of commercial lending where credit is primarily underwritten based on the creditworthiness of the borrower rather than the value of the borrower's underlying assets. In a traditional lending relationship, the lender looks to collateral only as a secondary source of repayment. The primary source of repayment is the borrower itself and its viability as an ongoing entity. In the case of factoring, the borrower's viability and creditworthiness, though not irrelevant, are only of secondary underwriting importance.

In some countries, borrowers can use receivables as collateral for loans. The difference is that the lender secures the working capital assets as collateral, rather than taking legal ownership of the assets. Therefore, this type of financing requires good secured lending laws, electronic collateral registries, and quick and efficient judicial systems, which are often unavailable in developing countries.

Factoring is often used in middle-income countries. One reason is that in many emerging market countries SMEs are unable to access sufficient financing from the banking system, yet large domestic, foreign, and multinational firms have cheap access to domestic and foreign bank and public-debt financing. Therefore, SMEs often depend on their large customers and suppliers to provide them with working capital financing. This may be in the form of 30-day credit from suppliers– which is repaid when the final goods are sold – or cash advances from customers – which is settled when the final goods are delivered. Inter-firm financing is also used more in countries with greater barriers to SME financing. For example, recent work by Demirguc-Kunt and Maksimovic (2001) find that in 39 countries around the world, trade credit use is higher relative to bank credit in countries with weak legal environments, which make bank contracts more difficult to write. Fisman and Love (2002) highlight the impact of inter-firm financing by showing

that industries with higher dependence on trade credit financing exhibit higher rates of growth in countries with relatively weak financial institutions.

Van Horen (2004) studies the use of trade credit in 39 countries and finds that trade credit is used as a competitive tool, particularly for small and young firms. Fisman and Raturi (2003) find that competition encourages trade credit provision in five African countries. In addition, McMillan and Woodruff study the use of trade credit in Vietnam and find that small firms are more likely to both grant and receive trade credit than large firms. This evidence suggests that small firms in emerging markets generally provide trade credit and hold illiquid accounts receivable on their balance sheets.

In addition, firms in developed countries often refuse to pay on receipt to firms in emerging markets since they want time to confirm the quality of the goods and know that it could be very difficult to receive a refund from firms in countries with slow judicial systems. In addition, a global trend is the outsourcing of intermediate goods and services, as a way for multinational firms to address the problem of restrictive local labor laws. For example, in many countries firms cannot fire employees during economic slowdowns. An alternative is to hire outside firms – often former employees – to provide the goods or services. This includes, for example, drivers, gardeners, and cleaners, as well as producers of some intermediate goods, such as fabric cutters. As a result, more SMEs have receivables – rather than salaries – from large firms.

The challenge faced by many SMEs in emerging markets is how to convert their accounts receivable to creditworthy customers into working capital financing. Bank loans secured by accounts receivable – which is the primary source of SME financing in the US – is often unavailable in emerging markets. First, it requires the lender to be able to file a lien against all business assets of the firm. For example, in the US the UCC-Section 9 allows banks to secure "all current and future inventory, receivables, and cash flow" of a firm. Furthermore, this type of financing requires sophisticated technology and comprehensive credit information on firms. For instance, receivable lenders in the U.S and U.K. generally depend on "electronic ledgers" – firms input all receivable information on-line along with their customers' Dunn & Bradstreet (D&B) ID numbers. The D&B rating is a credit score calculated by D&B based on the firms current and expected future performance and is automatically electronically received and receivables are instantaneously accepted or rejected as collateral. In the case of approval, the borrower's credit-line is automatically increased to reflect the new receivables. However, most developing countries do not have laws allowing lenders to secure "intangible/ floating" assets and do not have judicial systems that are sufficiently quick and efficient to enforce such contracts. Furthermore, most emerging markets do not have the technological infrastructure or access to commercial credit information necessary to allow this type of financing.

Box 3: Factoring in Eastern Europe

The environment in the EU-accession and transition countries makes it quite likely that factoring will grow in importance and that it will likely have some key advantages over other lending products.

There are several characteristics of factoring that may give it an edge in Eastern Europe. First, factoring removes receivables from the borrower's estate in bankruptcy, which may be particularly important if the judicial system is less developed or inefficient. Both of these conditions likely apply to most countries in Eastern Europe, as confirmed by the World Bank's Insolvency and Creditor Rights ROSC reports (Reports on Observance of Standards and Codes) for selected countries in the region.[6]

Second, factoring is a type of asset-based financing that has a distinct advantage in providing funding to higher risk and informationally opaque firms, especially SMEs. This is particularly relevant in transition countries whose private sectors are young and continuing to develop and expand in order to catch up to Western Europe. Furthermore, weak accounting standards and a shortage of audited financial statements is characteristic of the region. Factors can base their lending decision primarily on the condition of the underlying accounts (buyers) rather than the creditworthiness of their SME customers (suppliers).

The weak information infrastructure systemic in transition countries could be problematic for factors. The general lack of data on payment performance, such as the kind of information that is collected by public credit registries, private business credit bureaus, credit insurance companies, or by factors themselves, can discourage ordinary factoring. However, the large presence of multinational buyers makes attractive the potential for reserve factoring of receivables from foreign and large domestic firms.

Reverse Factoring is an effective solution to weaknesses in credit information on buyers, which increase the difficulty of collection credit information on a large number of buyers. However, there are a number of additional tax, legal, and regulatory challenges to ordinary and reverse factoring in many developing countries. For instance, the tax treatment of factoring transactions often makes factoring prohibitively expensive. For example, some countries that allow interest payments from banks to be tax deductible do not apply the same deduction to the interest on factoring arrangements, VAT taxes may be charged on the entire transaction (not just the service fee), and stamp taxes may be applied to each factored receivables. Factoring companies that do not take deposits are sometimes subject to burdensome and costly prudential regulation. In addition, capital controls may prevent non-banks from holding foreign currency accounts for cross-border assignments.

The legal and judicial environment may also play a critical role in determining the success of factoring. A key legal issue is whether a financial system's commercial law

[6] For country-level Insolvency and Creditor Rights ROSC reports, see: http://www.worldbank.org/ifa/rosc.html.

recognizes factoring as a sale and purchase. If it does, then creditor rights and enforcement of loan contracts diminish in importance for factoring because factors are not creditors. That is, if a firm becomes bankrupt, its factored receivables would not be part of the bankruptcy estate because they are the property of the factor, not the property of the bankrupt firm. However, creditor rights and contract enforcement are not entirely irrelevant to factors, even in non-recourse factoring arrangements, since they describe the environment under which the factor engages in its collection activities, which might affect the expected costs and efficiency of factoring. Another issue is whether a country has a Factoring Act or a reference in the law (or civil code), which legally recognizes factoring as a financial service. This recognition serves multiple purposes. It serves to clarify the nature of the transaction itself. For example, a Factoring Act explicitly dictates how judges must rule towards factors in the case of default of sellers or customers. It also tends to legitimize the factoring industry. In a sample of Central European countries, factoring (as a percentage of GDP) is higher in countries with Factoring Acts, although the development of such Acts may in part be in response to the development of, and pressures from, domestic factors. However, the indication is that a supportive legal and regulatory environment encourages the factoring industry to grow.

Finally, an advantage to factoring is that it's generally linked on a formula basis to the value of the underlying assets, which allows quick credit approval and disbursement. However, this depends on a good technology infrastructure and supporting electronic security laws that allow the electronic sale and transfer of electronic securities (accounts receivable). Furthermore, there must be a supportive regulatory environment for electronic security, so that factors and borrowers are assured that their transactions are confidential and secure. As discussed in the following section, the success of reverse factoring requires a legal environment that facilitates safe and easy electronic transactions.[7]

Chapter 5: The Nafin Factoring Program in Mexico

Chapter 5.1: Overview

As discussed in the previous section, ordinary factoring requires lenders to have timely and comprehensive credit information and suppliers to have sophisticated technology and MIS systems. However, Reverse Factoring only requires complete credit information on one or more creditworthy firms. There are potentially advantages for all participants: for the lender, who benefits from low information costs and credit risk; for the (high-risk) seller, who benefits from access to short-term, working capital financing; and for the (creditworthy) buyer, who benefits from the ability to outsource its receivable management and negotiate better terms with its suppliers.

A successful example of reverse factoring in a developing country is the case of the Nacional Financiera (Nafin) development bank in Mexico, which offers on-line

[7] For additional information see Glaessner, Kellermann, and McNevin (2002) and Claesssens, Glaessner and Klingbiel (2001).

factoring services to SME suppliers.[8] The program is called the "Cadenas Productivas", or "Productive Chains" program and works by creating "Chains" between "Big Buyers" and small suppliers. The Big Buyers are large, creditworthy firms that are low credit risk. The suppliers are typically small, risky firms who generally cannot access any financing from the formal banking sector. The Nafin program allows these small suppliers to use their receivables from Big Buyers to receive working capital financing, effectively transferring their credit risk to their high-quality customers to access more and cheaper financing.

What makes Nafin special is that it operates an electronic platform that provides on-line factoring services, which reduces costs and improves security. Over 98% of all services are provided electronically, which reduces time and labor costs. The electronic platform also allows all commercial banks participate in the program, which gives national reach, via the internet, to regional banks. Nafin also uses the Internet and regional "contact centers" to market and provide services. Technology has allowed a successful economies of scale – Nafin grew from a 2% market share of factoring in 2001 to 60% of the market in 2004.

There are a number of additional characteristics (described in more detail in the following sections) that make the Nafin program unique. For example, all factoring is done on a non-recourse basis, which lets small firms increase their cash holdings and improve their balance sheets. Also, Nafin has a "Multi-bank" approach, which allows lenders to compete to factor suppliers' receivables. In addition, Nafin pays for the costs associated with their electronic factoring platform and all legal work, such as document transfers, preparing and signing documents, etc., so that banks charge only interest and not service fees. Nafin covers its own cost with the interest that lenders pay for their own financing or service fees.

Nafin was created by the Mexican government in 1934 as a state-owned development bank with the goal of providing commercial financing. It has 32 state-branch offices throughout the country. When a new government was elected in 2000, Nafin was given new management and direction with the goal to (1) use new technology to provide microenterprise and SME loans and (2) complement lending with greater training and technical assistance. The factoring program is integrated with the Mexican e-government model that aims to use the internet to provide quicker and cheaper government services. Nafin is primarily a second-tier development bank: About 90% of lending is done through refinanced bank loans and about 10% is made directly to borrowers (primarily public projects). About 80% of the second-tier business is the factoring of receivables of commercial firms. In Dec 2000, Nafin reported assets of $23.9 billion and a deficit of $429 million. In Dec 2003, reported assets of $26.75 billion and a surplus of 13.23 million. Factoring has helped contribute to the turn-around in Nafin's balance sheet.

[8] Additional information is available at www.nafin.com.

About 99% of registered firms in the formal economy – about 600,000 firms – are classified as small and micro enterprises.[9] It is estimated that the informal sector includes over 1.8 million small and microenterprises. SMEs comprise 64% of employment and 42% of GDP. The typical Mexican SME receives 65% of its working capital from family savings and other personal funds, another 18% from friends and parents – and less than 1% from banks (Kun 2002). The goal of Nafin was to target this segment of small firms with banking services.

Nafin has succeeded in providing financial services to Mexican SMEs. Nafin has established Productive Chains with 190 Big Buyers (about 45% in the private sector) and more than 70,000 small and medium firms (out of a total of about 150,000 participating suppliers). About 20 domestic lenders are participating, including banks and independent finance companies. Nafin has extended over US$ 9 billion in financing since the program's inception in September 2001 and has reached month factoring amounts of over US$ 600,000. Nafin has brokered over 1.2 million transactions – 98% by SMEs, at a rate of about 4,000 operations per day. The following sections discuss the mechanics of the Nafin program and its benefits to small suppliers, big buyers, and lenders.

Chapter 5.2 Products offered

The Productive Chain program integrates supply chains, primarily of small suppliers to large enterprises and the federal government. Services include:

1. Factoring, which is offered without recourse or any collateral or service fees, at a maximum interest rate of seven percentage points above the bank rate (five percentage points, on average), which is about eight percentage points below commercial bank rates.[10] Importantly, the sale of receivables from the supplier and the transfer of funds to the supplier are done electronically, once the SME is registered on-line or on the phone and has an account with a bank or factor that has a relationship with its buyer. The funds are transferred to the supplier's bank account, and the bank becomes the creditor (e.g. the buyer repays the bank directly). The Bank collects the loan amount when the buyer pays the supplier (in 30 to 90 days).

Nafin maintains an internet site with a dedicated page for each Big Buyer. Suppliers are grouped in "chains" to big buyers to whom they have a business relationship. Nafin also plays a critical role in handling the sale and delivery of electronic documents. The suppliers and Nafin sign a pre-agreement allowing the electronic sale and transfer of receivables. Additional contracts between the banks and

[9] Microenterprises are defined as manufacturing firms with up to 30 employees and service firms with up to 20 employees. Small firms are defined as 31-100 employees in the manufacturing sector and 21-50 firms in the service sector and Medium firms are defined as 101-500 employees in the manufacturing sector and 51-100 firms in the service sector.

[10] Beginning in July 2004, banks will be able to compete with one another on the interest charged for factoring. For example, a good bank customer may receive preferential rates.

buyers and Nafin define their obligations, such as the requirement for buyers to remit factored receivables to the banks directly.

Once a supplier delivers its goods and an invoice to the buyer, the buyer posts on its Nafin webpage a "documentos negociables", or "negotiable document", equal to the amount that Nafin should factor. In general, this is equal to 100% of the value of the receivable.[11] Next, the supplier uses the internet to access its buyer's Nafin webpage and clicks its receivable.[12] Any lender that has a relationship with the buyer and the supplier and is willing to factor the receivable will appear on the next screen, along with a quote for the interest rate at which it's willing to factor this specific receivable.[13] To factor its receivable, the supplier clicks on a shown factor and the amount of its negotiable document less interest is transferred to its bank account.[14] When the invoice is due, the buyer pays the factor directly.

Even though the buyers are high quality, a remaining risk to the lenders is in the case of returns – if the buyer is unsatisfied with the quality of the goods or services received, they generally have the right to return the goods, for a full refund, within a certain number of days. However, banks are responsible to pay Nafin on the day the invoice expires, regardless of whether the buyer pays the bank the full amount.[15] Nafin and the buyers help banks reduce their losses in two ways: First, buyers must "invite" sellers to join their chain and participate in the program. Buyers generally require sellers to have a relationship of a minimum length and performance record before participating. Second, in the case of returns, the factor receives future receivable payments directly from the buyer and the buyer adjusts the amount of the negotiable documents on future receivable payments posted on the Nafin website by the amount of the receivables due to returns.

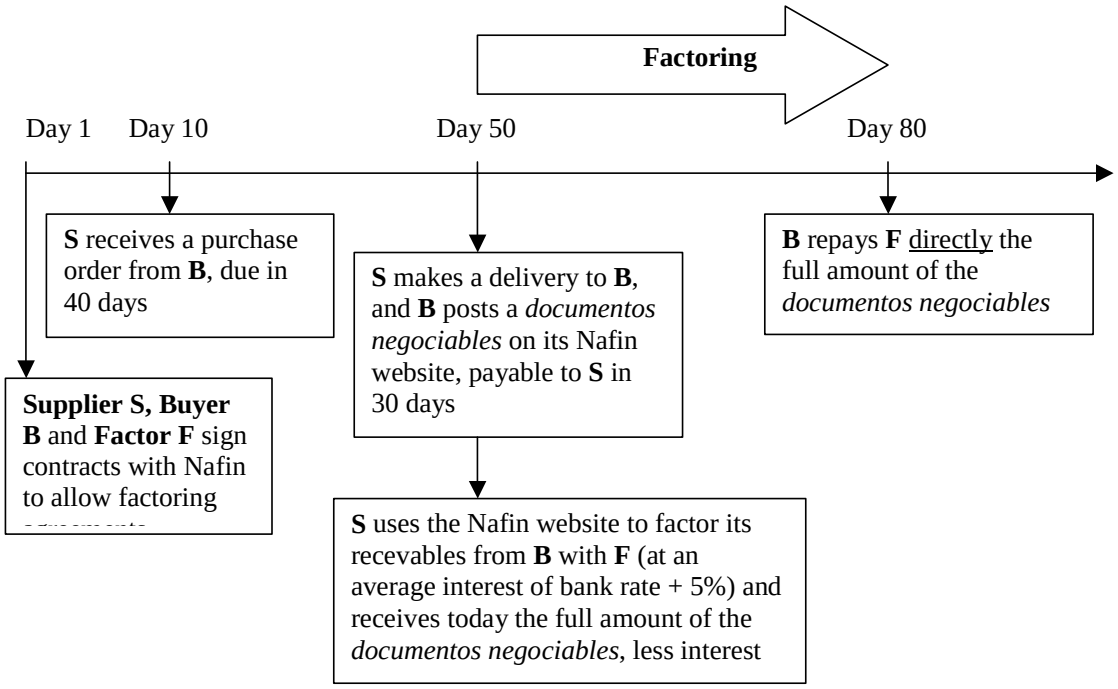
The Nafin factoring program is successful because it uses an electronic platform for cheaper and quicker transactions. Today, all transactions are completed within 3 hours and money is credited to suppliers account by the close of business. This provides immediate liquidity to suppliers. The Nafin factoring program is also less expensive than commercial factoring because Nafin waives the service fee by paying the overhead and legal costs associated with maintaining the electronic platform and writing the contracts.

The Nafin factoring program has succeeded because of supporting electronic security laws. Annex 1 provides the translation of a comparative table of electronic

[11] A buyer may choose to hold a "commercial reserve" for the case of returns, which is done by posting to its Nafin website a "negotiable document" less than 100% of the invoice. In this case the buyer is responsible to pay the difference to the supplier when the invoice is due.
[12] Factoring can also be executed by phone for no extra fee.
[13] An advantage of the multi-bank Nafin model is that a lender may be unable to factor a receivable if it has reached its lending limit to that particular buyer.
[14] In most factoring arrangements the supplier receives a percentage of its invoice today and the remainder less interest when the factor is paid by the buyer. In comparision, the Nafin program generally pays the supplier 100% of its invoice, less interest today and the factor keeps the full amount paid by the buyer.
[15] As a result of this condition, Nafin has reported zero loses from factoring.

security laws in Mexico and other countries (AMECE, 2004). For example, in May 2000, the "Law of Conservation of Electronic Documents" was passed giving data messages the same legal validity as written documents, which is necessary for electronic factoring. In April 2003, the "Electronic Signature Law" was enacted, which allows secure transactions substituting electronic signatures for written signatures, which permits the receiver of a digital document to verify with certainty the identity of the sender. In January 2004, modifications to the Federation Fiscal code included amendments necessary for electronic factoring, including digital certification. These laws allow secure and legally binding factoring transactions.

Figure 3: The Nafin factoring Agreement



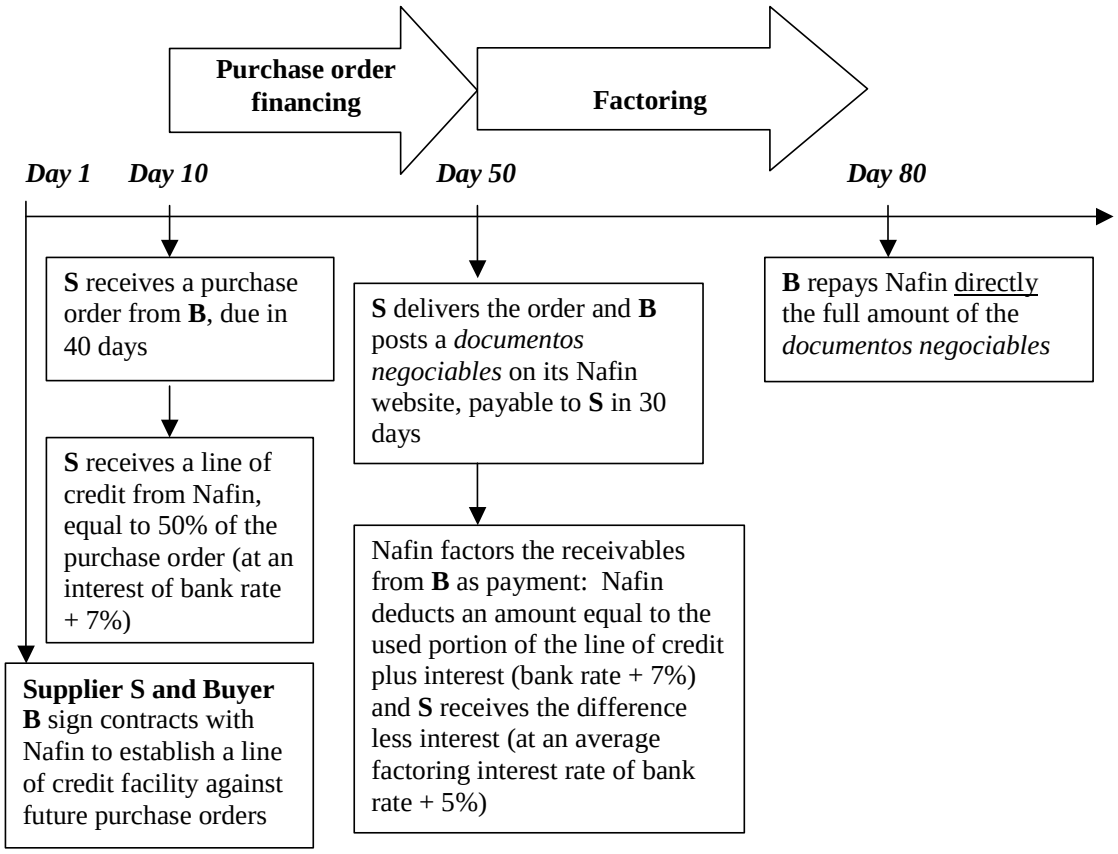
Contract Financing, which provides financing up to 50% of confirmed contract orders from Big Buyers with Nafin supply chains, with no fees or collateral, and a fixed rate (generally seven percentage points above the bank rate). First, the supplier signs a contract with Nafin stipulating that (i) Nafin will provide a Line of Credit equal to up to 50% or the purchase order and that (ii) the supplier will factor its receivables to the lender when its goods are delivered. Once the supplier receives a contract order from a big buyer, Nafin provides a line of credit for up to 50% of the order at the bank rate + 7%.

After the goods are delivered the buyer receives an invoice and posts a negotiable document to its Nafin website. Nafin factors the negotiable document and takes as payment the amount of the negotiable document equal to the outstanding line of credit plus interest, up to 100% of the negotiable document.[16] The remainder is paid to the supplier less the interest paid on factoring, equal to the lower interest rate of the bank rate

[16] Since Nafin only factors up to 50% of purchase orders, the Nafin loan would only eual 100% of the receivables in the case that the firm does not deliver its full order or some goods are returned.

+ 5%. Nafin is paid directly by the buyer when the invoice becomes due. This funding allows creditors to buy raw materials to complete the new order. Nafin introduced this program in 2004 and as of July 2004, provides the financing directly to small suppliers and holds the future receivables until the buyer remits. However, it is the intent of Nafin to develop a tract-record of profitability and low defaults rates with this program so that private lenders will participate (with Nafin financing).

Figure 4: The Nafin Purchase Order Agreement



3. Training, which includes on-line and attendance courses on accounting standards, how to apply for credit, business ethics, marketing, and strategy.[17] SMEs are also offered discounts at affiliated university classes. About 70% of SMEs participated in some form of training.

4. Technical Assistance, which offers participating suppliers e-mail responses to e-mailed questions within 48 hours. Suppliers can also receive information on public-sector selling opportunities provided by Compranet, the Mexican government's e-procurement initiative. Nafin also has a call-center to answer questions and provide assistance with on-line transactions (for no extra fee). Suppliers that cannot access the internet can also use the call centers to do all transactions by phone, for no additional fee.

[17] A complete list of courses is available at www.nafinsa.com.

The call center is also used to generate new business. The call center has about 160 employees in three locations. Callers contact large buyers to form relationships. Buyers then provide Nafin with a list of all their suppliers, which Nafin call to introduce the factoring product and collect information about the firm. This information is used to set up a credit profile that can later be used to set up banking and factoring relationships.

Chapter 5.3: Benefits to Sellers, Buyers, and Lenders

For the Small Supplier:

The Nafin factoring program reduces the borrowing and transaction costs of small suppliers. First, factoring offers working capital financing at favorable rates. Factoring provides instant liquidity, which allows businesses to grow with funds that were previously tied up in receivables. In addition, all interest charges are tax deductible. The Nafin program also has advantages over traditional factoring products. Since reverse factoring transfers the credit risk of the loan to the suppliers' high-quality buyers, Nafin can offer factoring without recourse to SMEs, even those without credit histories. This allows SMEs to increase their cash stock – and improve their balance sheets – without taking on additional debt. In addition, Nafin charges no commissions (to the seller) and offers capped interest rates. The competitive structure, which allows lenders to compete for suppliers' receivables, allows firms to pick their own lender.

Second, factoring reduces transaction costs. Previously many rural SMEs needed to travel to customers in the city to present bills, collect payments, pay suppliers, etc. By factoring its receivables, the supplier eliminates its collection costs by effectively outsourcing its receivable management. Nafin also provides free technical assistance on using the electronic system.

Many suppliers have no other sources of financing. In discussions with suppliers, many reported that they had no external financing before receiving financing from Nafin and most depended on internal funds and credit from their own suppliers. In addition, suppliers stated that the Nafin financing is preferable to bank financing, since banks are slow to make credit decisions, would offer less credit and charge higher rates. Some small firms reported that they had previously factored with other lenders, but at higher rates plus high service fees. Overall, suppliers commended the Nafin program.

Box 6: The experience of a Small Supplier*

This Small Supplier in the agribusiness sector sells processed food to large Mexican supermarkets. The firm began operations four years ago and has about 30 employees. Prior to factoring with Nafin, the firm factored its receivables with a factor that required the supplier to physically collect its receivables from the buyers and deliver its receivables to the bank. This supplier reports that factoring on-line and using electronic document transfers allows for quick payments and lower costs.

* This supplier requested anonymity.

For the Big Buyer:

The benefit to the buyer is that the lender provides receivables management and the buyer often develops stronger relationships with its suppliers. For instance, buyers decrease their administrative and processing costs, by effectively outsourcing their payment department, e.g. the buyer writes one check to a bank rather than to hundreds of suppliers. By providing its suppliers with working capital financing, buyers can also improve their reputation and relationship with suppliers. For example, buyers can often negotiate better terms with suppliers, e.g. extend payment terms from 30 to 60 or 90 days. Participating in the Nafin program can also help the development of suppliers and the growth of the SME sector, which can lead to increases in competition and improvements in the quality of goods.

Box 7: The experience of a Big Buyer*

This Big Buyer has about 4,500 suppliers of which approximately 80% are small and medium firms with less than 100 employees and about 15% are "Personas fisicas con actividad empresarial", loosely translated as non-corporate entrepreneurs. Suppliers are offered factoring and purchase order financing through Nafin. As of July 2004, over 1,000 suppliers receive financing through Nafin.

This firm holds 10% of invoices as reserves; in other words, suppliers can factor up to 90% of their receivables. In order to be "invited" to join its chain, firms must meet three criteria:
1- Have been a supplier for at least six months and have been fully compliant with all purchase orders;
2- Have completed at least one purchase order per month (i.e. are a regular supplier);
3- Have had negligible returns and losses.

Since participating in the program, the buyer has increased the maturity of its payables from 45 to 90 days. The buyer is pleased that the program has reduced its own cash management costs and helped develop more loyal and reliable customers.

* This buyer requested anonymity.

For the Lender:

Factoring is a way for banks to develop new relationships with suppliers – banks can use factoring to build a credit history on firms, including information on their cash, accounts receivable and inventory turnover, and cross-sell other products such as credit cards, truck financing, payroll, etc. The advantage of a bank to reverse factoring is that it includes a broad base of customers, diversified across industries. In addition, because reverse factoring only includes high quality receivables, banks can increase their operations without increasing their risk.

Banks also have incentive to participate in the Nafin program, since Nafin provides low-cost (re)financing. Most banks refinance their factoring activities with Nafin, in

which case the bank earns the spread between what the suppliers pay and the Nafin rates. Some larger banks with cheaper sources of funding, use their own funds and pay Nafin from 42 to 100 basis points commission. However, about 99.6% of factoring is done with Nafin financing. Five banks and factoring companies represent 54% of all factoring transactions: Banorte, Mifel, Interacciones, Heller (GE Capital) and Bital (HSBC). The Nafin platform also allows low transaction costs. The E-platform eliminates the need to physically move documents, which is a large expense in off-line factoring.

Another advantage is that for regulatory purposes, banks can use lower risk weights on factored transactions; e.g. if the factoring is done without recourse, banks can use the risk of the buyer rather than the higher risk of the supplier. This is an important reason that banks will lend to small and risky customers only in factoring arrangements. In addition, an advantage of the Nafin platform is that it prevents fraud, which is systemic in the factoring business in the U.S. and other developed countries. Since the buyer enters the receivables (not the customers), the seller cannot submit fraudulent receivables. In addition, since the bank is paid directly by the buyer, suppliers cannot embezzle the proceeds.

In the future, Nafin can also play a role to securitize receivables. For example, a security backed by Walmart receivables might be an attractive security, equal to the credit risk of Walmart. Nafin could play an important coordination role bundling receivables of one large buyer across lenders, since no one lender has a large enough portfolio to securitize independently. Nafin is also committed to working towards the development of capital markets in order for small and midsize non-bank (non-deposit taking) financial intermediaries to participate. For example, independent leasing and factoring companies generally raise capital on the public debt and equity markets (e.g. in the U.S. NBFIs are the largest issuers of commercial paper).

Chapter 5.4: Lessons Learned

The Mexican economy has improved the past few years, as the result of macro stability and the continuing recovery of the banking sector from the 1990s crises, and banks are aggressively entering SME lending. However, factoring remains the cheapest form of financing for small suppliers in Mexico and most suppliers that participate in the Nafin program have no other sources of formal financing. The success of the Nafin program spotlights the role of factoring as an important source of working capital financing.

The success of the Nafin program highlights how the use of electronic channels can cut costs and provide greater SME services. The Nafin factoring program is used as a model in Mexico for the automation of other government agencies and service providers. Advances in technology can reduce the costs of lending that can allow banks to lend at lower margins, which make borrowing feasible for small firms. On-line banking services also allow lenders to penetrate rural areas without banks and provide incentive for firms in the informal sector to register and take advantage of financing opportunities. The success of the Nafin program depends on the legal and regulatory support offered in

Electronic Signature and Security laws that should be a model for other developing countries.

Nafin has entered an agreement with a development bank in Venezuela to develop a similar product and the model is being considered for replication in other Latin American countries such as Argentina, Chile, Costa Rica, El Salvador, and Nicaragua. Like Nafin in Mexico, this model is also an intriguing way to invigorate, redefine and refocus a state-owned development bank. The Nafin program has shown that in addition to financing, a development bank can also be utilized to provide training and information. Factoring is an ideal source of financing in countries with small, risky suppliers and large and foreign buyers. However, successful factoring programs require government support in setting up a legal and regulatory environment that allows a secure and electronic sale of receivables.

Chapter 6: International Experience

Chapter 6.1: The Bankinter's Factoring Product in Spain

<Lessons can be learned from reverse factoring products in developed countries… To be discussed >

Chapter 6.2: The Development Bank of the Philippines Factoring Product

Using a development bank to offer factoring services is not unique to Mexico – the Development Bank of the Philippines (DBP) and SMetrix have collaborated to offer a similar, yet more limited, service. The DBP Marketplace for SME Receivables Purchases (M4SME-RP) facilitates factoring, without recourse, to address the working capital needs of SMEs that have creditworthy customers but have limited financial resources and very limited access or no access at all to other regular bank facilities, because of their own high credit risk. Although this product is new (currently in a pilot stage), it has the potential to become an important source of working capital financing for SME suppliers. The DBP factoring program highlights the importance of a legal and technological infrastructure to support electronic signatures and security transfers.

DBP will use credit scoring methodologies to identify investment grade companies, who will in turn enroll their suppliers. In the initial pilot, DBP is collaborating with San Miguel Corporation (SMC), the largest food and beverage firm in the country. SMC has provided a list of SME suppliers to DBP, which are suppliers with whom SMC has an ongoing and satisfactory relationship. For those suppliers who wish to participate, DBP will post for electronic auction any digital receivables that these suppliers receive from SMC. DBP plans to operate an "Alternative Trading System", effectively an electronic brokering system, which allows fixed income investors – for a fee – to directly provide the financing.[18] DBP will not take any underwriting or credit risk. Similar to the Nafin program, the credit risk to investors is reduced because SMC

[18] The DBP has submited to the Philippine Securities and Exchange Commission an application for a licence to operate a Alternative Trading System.

cooperates with DBP and pays directly a "trustee" who repays the investors directly. This results in a credit risk transfer from the supplier to that of SMC. This feature allows DBP to offer factoring without recourse to small and risky suppliers.

In the case of returns, SMC is still responsible to repay investors and an adjustment will be made by SMC to future deliveries. This is done for logistical reasons, because adjustments are too difficult to make after the receivable is sold to the investor. However, an added benefit may be that SMC will be more selective in which suppliers it recommends to join the DBP factoring program, since it shares in the credit risk with the investor.

Receivables will be factored digitally, although in the pilot phase, SMC and the suppliers will use in parallel paper and digital invoicing to compare the success of the electronic process. SMetrix and DBP are introducing in the Philippines the concept of electronic transfers of digital business documents where the receivables can function as stand-alone legally enforceable documents. The goal for the program is to dematerialize the process completely. This is feasible because of a legal framework in the Philippines for electronic commerce, inclusive of digital signatures and e-security. The Philippine government passed the E-Commerce Act in 2000, which allows for the use of digital signatures and ensures the legal enforceability of electronic documents.[19] The Supreme Court in the Philippines has also issued "Rules on Electronic Evidence" which endorses digital imaging as a way to best ensure enforceable documents. This example is further evidence of the importance of electronic security and signature laws to enable innovative financing options for small firms.

Chapter 6.3: The Potential for Factoring in Sri Lanka

The success of the Nafin program suggests that factoring could become an important source of SME financing in other countries as well. For example, in Sri Lanka, many large and creditworthy domestic and foreign export firms buy their supplies from local SMEs.

Currently, the only factoring company in Sri Lanka is LOFAC, which offers limited factoring services. All factoring is done with recourse, in part because comprehensive credit information is not available – CRIB, the credit information bureau of Sri Lanka does not include small loans and reports with a time-lag – and because weaknesses in the judicial system would make it difficult to pursue a defaulting customer in the case of non-payment. LOFAC recently began managing the supplier ledger for John Keells, the largest domestic supermarket chain. LOFAC's role is (i) to collect financial data and prepare credit reports on potential suppliers and (ii) make John Keells' payments to suppliers. At this point, LOFAC makes payments on John Keells' behalf, e.g. John Keells pays their suppliers directly and not through LOFAC. LOFAC does not offer factoring services to John Keells suppliers, although they are developing performance and payment histories for their suppliers, which can facilitate future factoring.

[19] For additional information on the legal framework in the Philippines, see Glaessner and Kantur (2004).

The potential for reverse factoring in Sri Lanka is great. Sri Lanka has successfully developed an export sector whose firms are registered with the Board of Industry (BOI). There are over 700 BOI projects, which in 2003 exported goods valued at over US$ 3 billion and employed over 430,000 people. The ownership of these firms is approximately 30% local, 40% foreign, and 30% joint ownership. The sectoral breakdown of these industries is: 63% service (hotels), 35% manufacturing, 2% agriculture. Importantly, firms report to BOI that they use over 50% local suppliers for their inputs and intermediate goods and services, many of whom are SMEs. The large and foreign BOI Buyers would be good candidates for reverse factoring arrangements.

Box 8: Example of MAS Holdings

MAS Holdings is a manufacturer of lingerie for U.S. and European retailers such as Victoria's Secret and the GAP. MAS Holdings is owned 50% by Sara Lee and 50% by MAS Holdings/Sri Lanka and has a AAA credit rating. In 1993 the firm had US$ 400 million in sales, split about evenly between the U.S. and U.K. The firm depends on a local supplier base because of the quicker delivery time. This includes fabrics, trims, laces, zippers, etc.

About half of MAS Holding's suppliers are local Sri Lankan SMEs. The remaining 50% is split between large local firms (mostly fabric manufacturers) and joint-ventures, in which MAS has an equity stake. Local suppliers often request "reference letters" from MAS Holdings attesting to their ongoing orders and performance record. However, no formal financing program is in place to provide contract order financing or factoring services to these firms. In addition, a large pool of MAS Holdings receivables could be itself securitized by a lender for a AAA-rated source of financing.

Chapter 7: Conclusion

Around the world, factoring is a growing source of external financing for corporations and small and medium-size enterprises (SMEs). What is unique about factoring is that the credit provided by a lender is explicitly linked on a formula basis to the value of a supplier's accounts receivable – the sale payments due from customers – and not the supplier's overall creditworthiness. Therefore, factoring allows high-risk suppliers to transfer their credit risk to their high-quality buyers. Similarly, in high-risk business environments, e.g. poor access to credit information and weak creditor rights, only high-quality firms can access financing and factoring may be the only source of financing for high-risk, informationally opaque firms. Factoring may be particularly useful in countries with weak secured lending laws, inefficient bankruptcy systems, and imperfect records of upholding seniority claims, because receivables factored without recourse are not part of the estate of a bankrupt SME. Factoring can also mitigate the problem of borrowers' informational opacity in business environments with weak information infrastructures if only receivables from high-quality buyers are factored.

The Nafin and DBP factoring programs highlight how the use of electronic channels can cut costs and provide greater SME services in emerging markets. By creating “chains” of small suppliers and big buyers, Nafin can offer low-cost factoring without recourse, which is an important source of financing and improves the balance sheet of small firms. The success of the Nafin and DBP programs depend on the legal and regulatory support offered in Electronic Signature and Security laws that should be a model for other developing countries.

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Annex 1: [20]

"Standards in Action: Amece – Productivity for Business", July 11, 2004

http://www.amece.org.mx/semanario/2004/11%20jun/general.html

What has been the experience of Mexico and other countries with Electronic Factoring?

	History	Current Status	New Legislation	Standards, Formats and Certificates
MEXICO	An electronic factoring committee was created in November 1997 to find a solution to a need by businesses for factoring services and to integrate this into electronic operations. The committee is part of the Mexican E-Commerce Committee (COMECE) and is made up of representatives from: Industrial and Commercial Sector: ▪ Colgate Palmolive ▪ Gigante ▪ HEB ▪ Kraft Foods ▪ Kellogg ▪ Liverpool ▪ Nadro ▪ Nestle México ▪ No Sabe Fallar (BIC) ▪ Pamyc ▪ Procter & Gamble ▪ Sigma ▪ Unilever ▪ Wal*Mart	The minimum information required for electronic factoring is: ▪ Type of verification ▪ Who is importing/exporting (name, industry, reason, business address, RFC key) ▪ Folio number and series ▪ Place and date of import/export ▪ Key or RFC of the person for whom the good is being imported/exported ▪ Quantity, unit of measurement and class of good and/or description of service ▪ Unitary value ▪ Amount and type of taxes imposed and/or retained ▪ Number and date of customs document when the importation/exportation actually took place ▪ Completion of a standard electronic factor document	May 29, 2000 – reforms in the area of e-commerce published. Data messages are given the same legal validity as written documents – which is necessary for electronic factoring. Law of Conservation of Electronic Documents NOM 151 Establishes the requirements for the conservation of the content of data messages regarding contracts, agreements or accords with rights and obligations April 4, 2003 Electronic Signature Law Allow secure transactions substituting electronic signature for written signature which permits the receiver of a digital document to verify with certainty the identity of the sender. January 5, 2004 - Modifications to the Federation Fiscal code	The required signature to request the digitally stamped certificate is covered in PKCS#7 The digital certificate generate must comply with standard X509.v3. The private key complies with standard PKCS#8 Digital stamps are generated by Cryptographic RSA algorithms with 1024 bit keys Digestion algorithms with PKCS#1 standard (MD2, MD5,SHA-1,SHA-256,SHA-384,SHA-512) Validation process: With the digital certificate included in the PKCS#7 or EdiFact form, verifies that the period of vigilence determined by the "not before" and "not after" dates contains the date on the

[20] A special thanks to Andrew Claster for his assistance translating this table.

	Telecommunications Sector ▪ Avantel Technology Providers ▪ Infosel ▪ Levicom ▪ Harbinger ▪ Seguridata ▪ Cecoban ▪ Bnexus ▪ Ekonom Accountants and consulting firms involved in project documentation. Active participants also include members of the finance committee, security and the E-Commerce Legislation Advocacy Group (GILCE). The active participation of the authority is considered of vital importance. From the beginning, the project was supported by the SAT through the SAT President, the International Business Directory, Payments Administration, Internet Projects Directory and the IT Directory	and complementary documents (ASN, etc.) ▪ EDIFACT ▪ GCI (XML) Two tests confirmed the EDIFACT standard: 1. In 2000, Wal-Mart and No Sabe Fallar tested the information exchange and verified the security required by SAT. 2. On March 11, 2003, Walmart and Procter & Gamble made the first payments using electronic factoring. This test compared a paper control with electronic factoring which passed information directly to internal systems. These tests realized a general model of information exchange together with security processes.	Build necessary components to complete electronic transactions (including factoring): ▪ Digital certification ▪ Electronic signature ▪ File solicitation ▪ Required data for digital fiscal confirmation ▪ Monthly summary	signed document Using the online service offered by TuFirm@, confirm that the digital certificate is valid for the day the document was signed. Select EDIFACT standard as the universal standard which includes: ▪ Electronic signature – principles means to guarantee the security of electronic factors ▪ Mechanisms for the administration of the security managed by digitial certificates ▪ Secure receipts to confirm recipt of electronic factors

POLAND		Although the Polish market is very vibrant right now, fiscal policy and the population's level of technical education are insufficient to bring about significant advances and revisions necessary for this type of electronic system. It will take about 2 years to achieve fiscal balance and sufficient education.	Poland currently has a good legislative system regarding electronic commerce firms and electronic factoring, but the government ministries (particularly Finance) has not published the necessary procedures to obtain the desired goal. It is not possible to determine value-added tax (VAT) based on the electronic factor because no one can pay an extra 22% NOS for savings which appear on paper. Currently, electronic factors can only be sent in conjunction with a fax.	
RUSSIA	Russia originally started electronic signature procedures via bank documents. Russia is very interested in continuing to work on the electronic factor project, starting with some projects developed in EDI and in ECR in Russia.	Like Poland, Russia has a vibrant market. Russia is improving notably its legislation with regards to firms and electronic factoring.	However, under current Russian law, approved in 2002, the law cannot be executed, since the necessary complementary elements are not in place. Currently, ECR is working to identify what is necessary to improve this situation in Russia.	
SPAIN	Electronic factoring was adopted (in the Balearic Islands) as a result of the January 2, 1993 order from the Baleares Council. Electronic factoring was adopted for all of Spain as part of the value-added tax	During the last month, more than 100 providers (and ever-growing) no longer send factors on paper. The majority of Spanish distributors use e-factors, among them Carrefour, El Corte Inglés, Eroski, Mercadona, Condis and Caprabo. Savings per factor received: €1.85	Spain has approved the Law of Electronic Firms for all electronic factors. This law affects the whole European Community and will affect operations soon. Currently, digitally signed factors have full legal validity	The GS1 (previously EAN.UCC) eCommerce Global Implementation Forum (ecGIF) committee is working with GS1-Spain to develop a standard approach for signatures

	law in Royal Decree 1624/92 in December 1993.	The new Spanish law also regulates autofactoring and factoring by trade partners acting in the name and on the account of the businessperson or profesional who engages the factor. (Law of Fiscal, Administrative and Social Order Measures, published in the BOE December 31, 2002)	and is a legal substitute for paper-based transactions. The regulation of factoring with digital signatures (Ministerial Order HAC/3134/2002 December 5, published in BOE December 13, 2002) complements this Ministerial Order with the Resolution of the General Director of the State Agency of Customs Administration that specifies the procedures and mechanisms of acceptable signatures (Resolution 2/2003 February 14, published in BOE Februrary 13, 2003).	on electronic invoices. The e-factor is much more secure than paper (authentication and integrity), is an open system applicable to whatever technological medium (value-added tax network, Internet, diskette and any system of the future) that permits any EDI (electronic data interchange, such as EANCOM, SML, etc.) and with much greater accessibility (without prior authorization or additional registration).
FRANCE	The position of the French bank has been important for the development of electronic factoring. In parallel, the experience of French distributors has also contributed to this project, together with industry.	The objective today is to present the new regulatory regime regarding electronic factoring and its consequences for French businesses. Equally, to present the new version of the guide to electronic factoring regarding best practices. In France, the General Directory of Taxes (DGI) is intervening in this area. The exchange of electronic factors among European countries has great importance, strength and support. Electronic factoring requires fiscal and security controls for business exchange and trade.	France accepted and recognized electronic factoring and gave them the recognition offered to non-electronic factors under the Finance Law of December 6 1990, Article 47, the Decree 20/06/61 and the Instruction of December 27, 1991. The new rules and best practice guide for electronic factoring in France are being accepted.	Spain and France have established meetings to discuss standards.

CHILE	In Chile, the ONCe is an organization belonging to the National Bureau of Commerce and Chilean Services (CNC). The CNC participates as sector leader for more than 140 years and specialized in the area of e-commerce since the 1980s. Its national presence through specialized regional associations guarantees the difusion of digital certificates throughout the country.	These electronic certificates are oriented to all persons who perform comercial operations and exchange information on open networks like the Internet. They have the following benefits: Identify the person who signs a document, which allows one to demonstrate that the person who signs is the person who he/she claims to be No repudiation of documents sent by someone as signatories are responsible for the information they send Confidentiality as the information can only be read by the final recipient of the message Confidence as it is assured that the signed document has not been altered by a 3rd party	ONCe is the first entity in Chile certified to produce digital certificates in compliance with Chilean law. In Chile, different organizations have produced digital certificates for foreign business for some time. These comply with legislation in the countries where these companies are based so that users of this system in Chile are unprotected under Chilean law in case of problems.	
COLOMBIA				In Latin America, Colombia as much as Chile has established legal prescriptions in favor of the broad admisión of electroinic factoring for customs under Law 223 of December 20, 1995 and a series of dispostions (Resolution #1515 of March 23, 1995, #4308 of April 9, 1995, #239 of January 19, 1996 and Circular #20 of April 16, 1996.

ARGENTINA				Beyond the considerations that could affect the legal validity of the electronic factoring document, in general the application of the administrative law which refer to the implementation of the acts of the National Public Administration (modification to the complementary permanent budget law in Article 30 of Law 24.624), it is worthwhile to reexamine fiscal ends, accepted a while back by the Law of Customs Procedures, the elaboration of registers by computerized means and, between 1994 and 1995, the system of provisional and customs calculation and control by both means.