# 5

# Financing Developing Countries' Trade

TRADE FINANCE—OR LOANS TIED directly to international trade transactions—make an important contribution to development. Developing countries' international trade (exports plus imports) is equivalent to about one-half of their gross national income; finance and related services (document preparation, management of transactions, risk insurance) play a critical role in supporting that trade. These services are perhaps even more important for international than domestic trade, because lack of familiarity with foreign firms and legal systems tends to raise the risk of international trade.

Trade finance supplies the liquidity necessary for efficient trade. Traded goods stand as security for banks and other firms, thus enabling less creditworthy and poorer countries to expand their access to international loans. Trade finance also can help countries grow rapidly out of crises by exporting. Indeed, the World Trade Organization was directed at its Fifth Ministerial Meeting in Cancún to contribute to efforts to maintain trade finance during crises.

A host of intermediaries and guarantors are active in supporting trade finance, including commercial banks, goods-producing firms, official export credit agencies, multilateral development banks, private insurers, and specialized firms.

Trade finance is provided in various forms. Direct forms include loans to finance purchases, prepayments by buyers, and delayed payment by sellers. Indirect support comes in the form of insurance, guarantees, and lending with accounts receivable as collateral.

In this chapter we discuss the growing importance of trade finance, showing how less creditworthy countries have increased their access to finance by linking transactions to international trade. The main messages that arise from this analysis are:

- Participation in international trade can help less creditworthy countries and firms expand their access to finance. Banks are more willing to lend when traded goods are available as security. Suppliers and customers are more willing to extend credit to firms with which they have a commercial relationship, because the information gained through commercial interactions is useful in evaluating creditworthiness. Firms involved in international trade, and foreign-owned firms, serve as intermediaries that pass on credit to firms (particularly in poor countries) that lack direct access to international finance—a fact that underscores the importance of open trade and investment regimes to widening access to finance.
- Trade finance to developing countries rose sharply during the 1990s—for the most part before the Asian economic crisis of 1997–98. Commitments from commercial banks may have increased fourfold; the exposure of export credit agencies and private insurers rose by a third; and trade credit from firms was relatively stable.
- Trade credit from suppliers and customers was more resilient during crises than was trade finance from banks. Export credit agencies' exposure declined after crises, probably due to a drop in demand, but recovered rapidly.
- Governments can support trade finance by ensuring a sound and efficient financial system. Steps governments can take to strengthen

trade finance include providing legal standing for electronic documents (to facilitate more efficient letters of credit) and for the assignment of receivables (to encourage factoring).

## Evolution in the sources, magnitude, and methods of trade finance

Trade finance is provided by commercial banks, official export credit agencies, multilateral development banks, insurance firms, suppliers, and purchasers. While the sources of trade finance are plain enough, the data available from each source suffer from limitations that make it impossible to estimate the global amount of external trade finance provided to developing countries. For commercial banks, for example, only a subset of developing countries' external borrowing is identified by purpose, and of that, only data on commitments (not disbursements, repayments, or the stock of debt) are reported. Official export credit agencies and private insurers report their exposure, but these data have some overlap with bank lending, since it is impossible to distinguish between bank loans that are guaranteed or insured and those that are not. The data on trade credit from suppliers and purchasers are taken from incomplete surveys that do not distinguish between international and domestic sources of finance. Therefore, rather than attempt to provide an estimate of trade finance to developing countries, we focus on the evolution over time of each of the different sources.

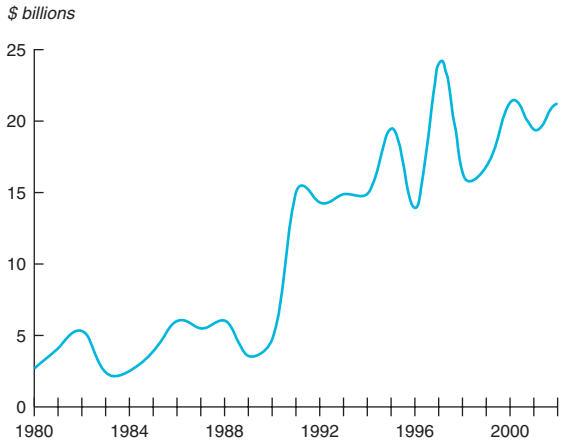
All in all, it appears that trade finance provided by commercial banks, and trade credit from suppliers and creditors, expanded significantly prior to the East Asian crisis of 1997–98. Trade finance collapsed with the crisis; thereafter trade finance from banks and support from export credit agencies and private insurers resumed their upward trend with the expansion of developing countries' trade, while trade credit from firms stagnated.

### *Trade finance from commercial banks*

The available data on trade finance from commercial banks, based on publicly reported transactions, have mirrored trends in overall bank lending since the early 1980s.[1] Trade finance commitments roughly tripled from the mid-1980s to the early 1990s, peaking immediately before the East Asian crisis (figure 5.1). In part, this experience reflected the overall surge in developing countries' trade and in commercial bank lending until 1997; in part, a shift in bank lending toward trade finance. The share of trade finance in bank lending commitments has been subject to considerable cyclical fluctuation; on average it has risen by 11 percent a year since the early 1980s (figure 5.2).

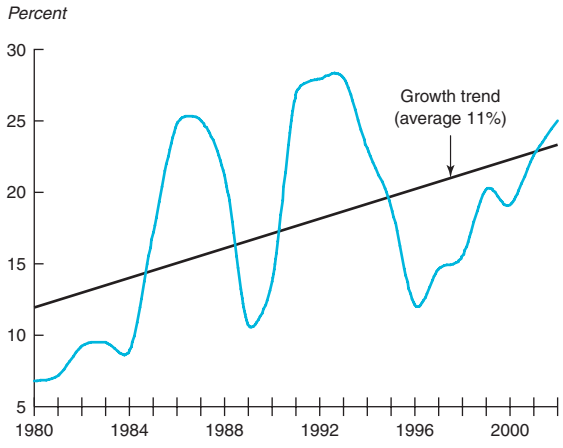
Trade finance commitments reported by Loanware were $21 billion in 2002, or about 25 percent of total commitments. The Loanware database provides a sense of the growth of trade

**Figure 5.1 Trade finance from market-based sources, 1980–2002**




*Sources:* World Bank and Dealogic Loanware.

**Figure 5.2 Share of trade finance in total bank lending, 1980–2002**




*Sources:* World Bank and Dealogic Loanware.

finance to developing countries, but it does not include all trade finance transactions. For example, bilateral financing arrangements that are not publicly announced are not captured. Thus the data understate the actual level of trade finance.[2] Also, the Loanware database includes information on commitments but not on actual disbursements or repayments, making it impossible to reliably calculate stocks or flows. If the share of trade finance in Bank for International Settlements claims on developing countries is the same as the share of trade finance in Loanware commitments to developing countries, then the stock of outstanding bank claims on developing countries related to trade finance would be on the order of $300 billion, or about one-sixth of developing-country imports. As far as the coverage of imports is concerned, this would exclude direct loans from official agencies and trade credit provided by suppliers and purchasers.

The average spread on trade finance transactions has declined significantly over the past 20 years in response to general trends in developing countries' borrowing and structural changes in trade finance. Spreads hit a peak of more than 700 basis points in the mid-1980s, when major developing-country borrowers were mired in debt. Spreads fell to 400–450 basis points in 1990–92, and to a low of about 150 basis points with the boom in commercial bank lending to developing countries before the East Asian crisis. The fall in spreads may also have been in response to the decline in the use of letters of credit and other forms of documentation (box 5.1). Spreads on trade finance transactions do not appear to differ greatly from spreads on other bank lending. For a sample of 10 countries

## Box 5.1 The decline in documentation requirements for trade finance loans

One incentive for tying financial transactions to trade, as opposed to general lines of credit or unsecured bonds, is that the traded goods can provide some security for the loan. Complicated arrangements have evolved over the past centuries to balance the lender's desire for security in trade finance transactions with the borrower's need for liquidity. The principal vehicle used is the documentary letter of credit, which accounts for 45 percent of all import-export fulfillment transactions (Handal 2001). Under the letter-of-credit system, the importer requests a local bank (the issuing bank) to open a letter of credit in favor of the exporter. A bank in the exporter's country (the nominated bank) pays the exporter on the strength of documents showing that the goods have been shipped and conform to the terms of sale. The nominated bank then sends the documents to the issuing bank for reimbursement. The importer then collects the documents, presents them to the carrier, and takes delivery of the goods. Letters of credit provide liquidity, allow each party to deal with counterparts in its own jurisdiction, reduce the exporter's exposure to the risk of the importer's insolvency or nonpayment, and reduce the importer's risk of paying for goods that do not meet the contract specifications. On the other hand, the time required for the shipping and review of documents can be substantial: one-half to two-thirds of documents tendered are inconsistent with the credit terms and are rejected when first presented (Laryea 2001). And any process that relies on documentary evidence is subject to fraud, such as counterfeiting of documents.

Globalization is reducing the use of cumbersome documentation in trade finance. The share of world trade occurring through cross-border production networks, where multinationals produce each stage of a final good in a different location, has grown significantly (World Bank 2003). The long-term relationships required for network production reduce the need for many of the security arrangements, such as letters of credit, historically used in trade finance. Trade finance transactions relying on conventional documentary procedures have fallen from 91 percent of all transactions in the late 1980s to 32 percent over the past five years (see box table).

Moreover, where letters of credit are still necessary, there is substantial potential for shifting to automated systems. Simple transfer of documentation from paper to the Internet is estimated to save exporters up to 10 days on preparation and delivery of documents—leading to faster payment, earlier access to funds, and reduced administrative costs (Anonymous 1999). Even more promising is the potential to use the Internet to provide a mirror image of the physical supply chain (Ivey 2002). Through the Internet, banks, traders, and transport companies could be tied into a seamless, automated, end-to-end business process (Kreitman 2001) in which credit would be granted and repaid at precisely the moment of shipment and receipt

## Box 5.1 *(continued)*

of goods. Such a system could reduce substantially the huge amount of working capital tied up in the inventory supply chain. It also could squeeze costs—just as resource-planning systems did for internal business processes during the 1980s and 1990s.

However, significant barriers confront the transfer to online systems: (a) trade finance documentation is not standardized, reducing the potential savings from switching to online systems; (b) in some developing countries, government regulations require that documents need a stamp in order to have legal standing (Marlin 2003); (c) encryption technologies, and the procedures guarding access to passwords, would have to be adequate to ensure the authenticity of documents; (d) telephone line stability and transmission speed, and the availability of Internet service providers, may not be adequate in many developing countries (Loong 2002); and (e) the process of education in using electronic letters of credit is likely to take some time and result in steady growth rather than immediate, widespread adoption (Taylor 2002).

Several companies have offered Internet-based systems to replace trade documentation, to help evaluate credit risk, and to support the provision of trade credit at various points in the supply chain (Gamble 2001). And progress is being made in defining standard documents. For example, the International Chamber of Commerce has issued a supplement to its Uniform Customs and Practices, called eUCP, defining the rules for issuance and acceptance of electronic trade documents (Marlin 2003). Nevertheless, the extent to which online systems are supplanting paper transactions is unclear. Lee (2001) anticipated that letters of credit would be replaced, perhaps totally, in a very short time. On the other hand, Gamble (2001) believed it was too early for Internet-based trade finance providers to have significant market penetration, and Ivey (2002) viewed their market share as negligible.

**Modes of commercial-bank trade finance, 1980–2002**

*Percent*

| Mode | 1980–85 | 1986–90 | 1991–95 | 1996–2002 |
|---|---|---|---|---|
| Conventional documentation | 77 | 91 | 62 | 32 |
| Term loans | 12 | 8 | 33 | 62 |
| Revolving credits | 9 | 1 | 5 | 5 |
| Other | 2 | 0 | 0 | 1 |

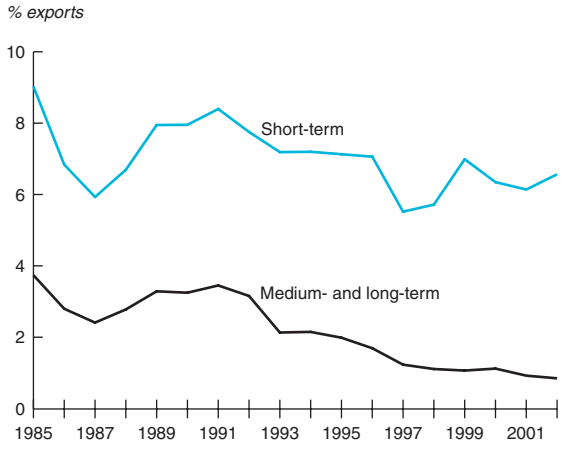
*Source:* Dealogic Loanware.

where comparable transactions could be identified, trade finance spreads averaged 28 basis points lower than spreads on other bank loans over 1996–2002.[3] However, this data excludes fees, which may be particularly significant in trade finance.

### *Trade finance from export credit agencies and the private insurance market*

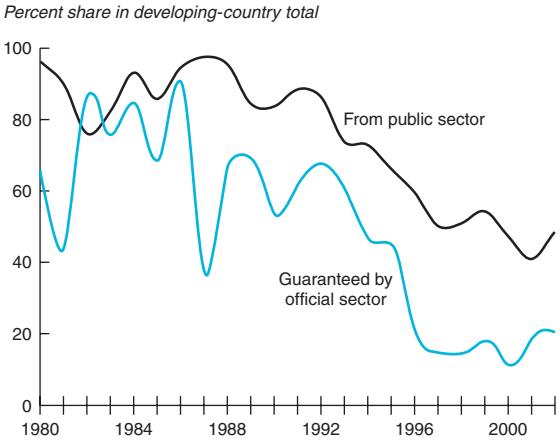
The stock of trade finance from export credit agencies (including guarantees, insurance, and government-backed loans) and from the private insurance market increased over the 1990s. The International Union of Credit and Investment Insurers (Berne Union) reports that the stock of loans and guarantees by member organizations rose from $375 billion in 1990 to $500 billion in 2002[4]—a decline from about 11 percent of member countries' exports in 1990 to 7 percent by 2001 (figure 5.3).[5] Of this amount, the role of export credit agencies

**Figure 5.3 Business covered by export credit agencies and private insurers in Berne Union member countries, exports of 1985–2002**




*Source:* World Bank staff estimates using Berne Union data.

**Figure 5.4 Trade finance for developing countries from public sector or guaranteed by official sector, 1980–2002**




*Source:* World Bank staff estimates based on Dealogic Loanware data.

has declined relative to the private insurance companies. Private insurance companies account for nearly half of new commitments by international credit and investment insurers ($6.7 billion in 2002), from a base of close to zero in the early 1990s. The apparent rise of private insurers is bolstered by data showing that the share of developing countries' trade finance covered by creditor government guarantees, and the share going to the public sector, have fallen by more than 50 percent since 1990 (figure 5.4). While the Berne Union does not report exposure by country, the Organisation for Economic Co-operation and Development (OECD) reports export credit agencies' coverage of medium- and long-term flows to developing countries, which averaged $36 billion from 1990 to 2001.[6]

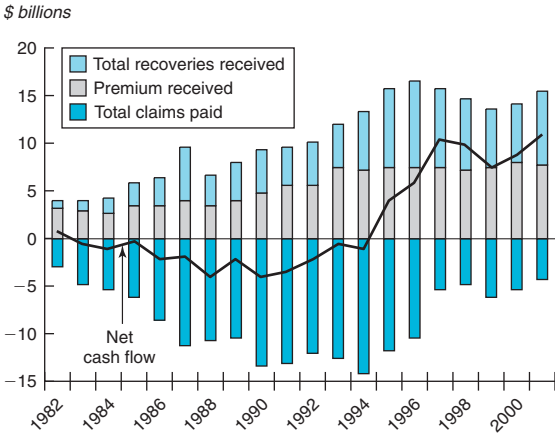
*The growth in private insurance in the 1990s.* As the private insurance market has become increasingly sophisticated in analyzing and mitigating political risk, the need for guarantees from official export credit agencies has diminished (Stephens 1999). At the same time, a wave of privatizations in emerging markets has shifted export risks from a sovereign to a commercial footing. The International Monetary Fund (IMF 2001) estimates that between 85 and 95 percent of short-term credit insurance business within and beyond the European Union is now underwritten by private insurers—without the involvement of governments. The big players, including AIG, Lloyd's of London, Sovereign Risk Insurance Ltd, Zurich Emerging Market Solutions, and Chubb, are now offering longer policy terms and increased project capacity. The increase in the number of foreign insurers in domestic insurance markets in developing countries, such AIG in China, provides these large insurance companies with on-the-ground information about market conditions and improved risk assessment.

Private insurers may have an advantage over official export credit agencies in being able to respond quickly, providing quotes in days and insuring against large risks within weeks, as opposed to months or years for official agencies (Mackie 2003). While export credit agencies are believed to be cheaper on ratings in certain categories, they may be more expensive in pricing a package of risks or a multicountry program (James 2001). This is because the private insurers are in a better position to offer discounts for large volumes and for diversified exporters. In addition, private insurers generally are better able to offer coverage for a wide variety of risks (such as business interruption, license-cancellation coverage, and contingency risks) than are export credit agencies.

However, the private insurance sector is still heavily skewed toward short-term export credit. In the medium- to long-term business, private insurers constitute only 0.2 percent of new commitments by Berne Union members. Also, for the large private insurers, growth over the past decade has been affected by a range of developed-country shocks (such as substantial claims from September 11, the collapse of equity prices, and low interest rates) that have affected both claims and investments but have not affected export credit agencies as directly.

*The decline of export credit agencies.* The relative decline in the activity of export credit agencies has been due to several factors. In the 1980s and early 1990s, export credit agencies experienced considerable losses on their portfolios in developing countries. As a result, the total net cash flows of Berne Union members was strongly negative during the period. Subsequent initiatives and international agreements (including the World Trade Organization's Agreement on Subsidies and Countervailing Measures and the 1999 Knaepen Package[7]) have attempted to strengthen the solvency of these agencies, factoring in requirements such as minimum country-risk-premium ratios. This, together with the entry of private insurers, has led to a rise in net cash flow for Berne Union members from −$4 billion in 1990 to $11 billion by 2001 (figure 5.5). At the same time, pressures to eliminate

**Figure 5.5 Net cash flow from Berne Union members, 1982–2001**




*Source:* Berne Union.

tied aid and to prevent lending from having undesirable economic consequences have restricted the type of activities export credit agencies can support (box 5.2).

### *Trade finance from multilateral organizations*

The multilateral development banks have sought ways to support trade finance transactions and help insulate developing-country trade from the paralyzing effects of financial crises. They undertake a host of projects related to international trade, including research, advice on trade policy, assistance with trade negotiations, loans to finance trade-related infrastructure, and technical assistance to strengthen institutions that support trade. Here we are concerned only with finance for international, private sector trade transactions by the major multilaterals lenders. Their trade finance operations take various forms, among them guarantees of trade instruments issued by local banks and loan facilities on-lent through commercial banks.

In the 1980s, the World Bank was heavily committed to trade finance loans, primarily lines of credit to private sector firms engaged in international trade, with state-owned development banks as intermediaries. This lending peaked in the second half of the 1980s at $700 million. However, poor financial sector development and repayment records by enterprises have since caused a substantial decline. The Bank's trade finance projects now support insurance schemes to foster the development of domestic financing capacity, such as regional trade facilitation projects for seven countries in Sub-Saharan Africa (Tang 2003).

The International Finance Corporation (IFC) provides trade finance facilities to boost long-term economic development and to increase foreign-exchange liquidity during crises. Various interventions are used, depending on country circumstances. For example, IFC may guarantee a percentage of international banks' exposure related to confirming letters of credit, booking acceptances, or purchasing trade-related notes issued or guaranteed by local banks. Or IFC may extend credit lines for trade finance directly to local banks, or provide financing to exporters (backed by receivables or securitized exports). IFC-supported trade finance packages to countries hit by crisis totaled about $1 billion in 2003 (Brujis 2003).

The Trade Facilitation Programme of the European Bank for Reconstruction and Development (EBRD) provides guarantees against the political and commercial risk of transactions undertaken by issuing banks. Among other instruments, guarantees cover letters of credit, advance payment guarantees and bonds, bills of exchange and trade-related promissory notes, and bid and performance bonds. The program can be used for trade transactions associated with exports from, or imports to, the EBRD's countries of operation. More than 70 issuing banks in these countries participate, together with 440 cooperating banks throughout the world. The EBRD also extends to banks short-term loans that are on-lent to local companies to provide the working capital necessary to fulfill foreign trade contracts. Since the relaunch of its Trade Facilitation Programme in 1999, the EBRD has guaranteed and financed approximately 1,300 trade transactions totaling more than 900 million euros (EBRD 2003).

The Asian Development Bank's (ADB) Trade Finance Facilitation Program provides guarantees to facilitate local banks' access to short-term trade facilities from international banks, including instruments such as letters of credit, standby letters of credit, and bankers' acceptances. The program also provides short-term loans to local banks that on-lend funds to private sector firms involved in international trade (ADB 2003).

The multilateral development banks have used these facilities to support emerging markets in crisis. For example, in 1998 the ADB provided finance to the Thai Export-Import Bank, including

## Box 5.2 Social responsibility and export credit agencies

In the past decade export credit agencies have moved decisively to limit corruption, guard against adverse environmental impacts, and avoid financing nonproductive projects. The move has come in response to increased public scrutiny of their activities and to demands from nongovernmental organizations that the agencies increase transparency and adopt binding environmental and social guidelines and standards (Maurer and Bhandari 2000; ECA Watch 2003).[a] These efforts have helped ensure that lending by export credit agencies contributes to borrowers' growth, a prerequisite for sustainable borrowing. They also have contributed to the decline in commitments. Export credit agencies have taken steps in the following areas to improve the social responsibility of their guarantee programs:

- *Tied aid.* Tied aid—trade-related aid credits provided by donor governments for public sector projects in developing countries, conditioned on the purchase of equipment from suppliers in donor countries—fell from 15 percent of net official development assistance in 1991 to 3 percent in 2000 ($1.8 billion, a 20-year low). The 1991 Helsinki Package placed constraints on export credit agencies by limiting the provision of tied aid to "non-commercially viable" projects with genuine development objectives and characteristics, and by mandating that at least 35 percent of tied aid be provided on concessional terms.[b]
- *Transparency.* Export credit agencies have been criticized for their lack of transparency in decision-making (Maurer and Bhandari 2000). Some export credit agencies are now setting out their business principles and reporting publicly on their comparative position in terms of coverage, pricing, and products offered (ECGD 2003). Many now publish on their Web sites information about the exports and projects they support (Godier 2003).
- *Anti-corruption and good governance.* In May 2003, the OECD Working Group on Export Credits and Credit Guarantees proposed measures to stamp out bribery in transactions supported by official export credits. The OECD proposals would require export credit agencies to inform all applicants requesting export credits of the legal consequences of bribery in international business transactions. They also would oblige applicants to declare that neither they nor anyone acting on their behalf have been engaged in or will engage in bribery.
- *Environmental and social impact.* Most members of the OECD's Export Credits and Credit Guarantees group agreed in 2001 to implement common approaches to environmental issues. Members are now required to screen and review the environmental impact of exported capital goods and projects supported by export credits, including their potential impact on the generation of significant air emissions, effluents, waste, or noise; significant use of natural resources; and the resettlement of indigenous and vulnerable groups. The new requirements are most likely to affect projects supported by export credit agencies, but support for "nonproductive" exports—notably armaments—also has become an important issue. The G-7 has called for stronger measures by the OECD against the practice of using export credits to help poor countries buy arms and other nonproductive items (de Jonquieres, Tett, and Fidler 2000).

a. See chapter 4 for a discussion of the increasing influence of nongovernmental organizations on development activities, and UNIDO (2002) for a discussion of the growth of corporate social responsibility.
b. The requirement of noncommercially viable projects was included to ensure that tied aid would be additional to otherwise available external resources; in other words, that bilateral funds would be used for projects that offered potentially large external benefits but lacked the ability to generate sufficient financial returns to make them eligible for commercial financing.

a $50 million loan and a partial guarantee for a $950 million syndicated loan from international banks. Draw-down of the funds was modest, partly due to the high margins charged by the intermediating banks and partly because the liquidity of the banking system improved faster than expected. The EBRD program was used to support the Russian Federation's recovery from its 1998 crisis. IFC has supported trade financing, in various forms, to banks lending to the Republic of Korea, to Brazilian banks, and to Indonesian and Argentinian exporters. During the recent crisis in Brazil, IFC provided $630 million in trade credit to leading Brazilian banks, which supported $1 billion of export activity and helped to restore confidence during a period when trade lines were shrinking. In 2003 the Inter-American Development Bank lent $110 million to Banco Bradesco to improve access to trade finance for Brazilian companies. These initiatives increased liquidity and may have helped to ease risk perceptions (IMF forthcoming).

### *Trade credit from suppliers and customers*

Finance provided by a supplier or customer (referred to as "trade credit") generally comes in the form of extended payment terms offered by a supplier to its buyer (supplier's credit), or prepayment by a customer to its supplier (customer's credit). Pervasive in modern economies, both forms of short-term arrangements are used to finance domestic and cross-border trade.

Firms offer trade credit to their customers for various reasons. First, suppliers' knowledge of their customers and the market often allows them to quickly assess a change in their creditworthiness (Mian and Smith 1992; Jain 2001).

Second, depending on market structure, a suppliers' threat to cut off future supplies in the event of default may be more credible, and more influential, than a financial institution's threat to foreclose (Cunat 2000). In common law countries, suppliers can repossess goods more easily than banks can seize collateral (Frank and Maksimovic 1998); they are often better able to value and sell repossessed goods than banks are to dispose of collateral.

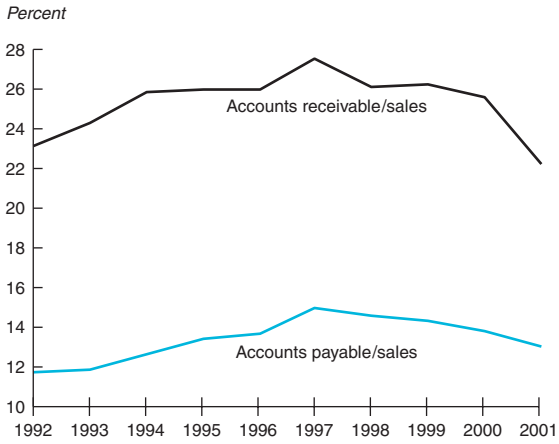
Third, trade credit can be used to practice price discrimination, when discrimination directly through prices is undesirable or illegal. Firms with a high margin between sales and variable costs have a strong incentive to make additional sales without cutting the price to existing customers (Schwartz and Whitcomb 1979; Brennan and others 1988).

Fourth, by separating the exchange of goods from the exchange of money, trade credit substantially reduces the transaction costs involved in paying and administering invoices between suppliers and buyers who regularly exchange goods or services (Ferris 1981).

Fifth, some industries may require trade credit as a guarantee of product quality (Lee and Stowe 1993; Long and others 1993; Emery and Nayar 1998; Deloof and Jegers 1995). In some cases the supplier will willingly extend credit to allow the customer sufficient time to test the product. In other circumstances customers may demand trade credit from their suppliers as an assurance of quality.

Finally, when the bulk of a supplier's sales are to one firm, the supplier will have an incentive to provide finance to secure the survival of the customer when it faces a temporary liquidity problem. When making its decision to extend trade credit, the supplier will also take into consideration the present value of the profit margins on future sales.

**Figure 5.6 Evolution of trade credit as a share of sales in developing countries, 1992–2001**




*Note:* Because it is not possible to distinguish domestic trade credit from cross-border trade credit, the trends shown in the figure reflect the change in the aggregate volume of trade credit.
*Sources:* Worldscope and World Bank (see note 8).

Trade credit is an important source of finance to firms in developing countries. Two measures of trade credit have evolved over time (figure 5.6): (a) trade credit extended by firms, as measured by the share of accounts receivable in total sales; and (b) trade credit borrowed from suppliers, as measured by share of accounts payable in total sales. Both measures reflect the annual average of the firms in the sample taken from the Worldscope database.[8]

Trade credit extended (accounts receivable) by the firms in the Worldscope sample rose from 23 percent of sales in 1992 to more than 27 percent in 1997, before falling back to 25 percent in 2000; thus trade credit covers about 90 days of sales. A similar pattern can be seen in the trade credit accepted (the ratio of accounts payable to sales). The sample firms provided significantly more trade credit than they received. This is not surprising, because the Worldscope database includes the largest and most stable firms in each economy, those most likely to act as financial intermediaries. The fall in the trade credit measures after 1997 is due chiefly to the large drop in the accounts payable and receivable ratios in the Asian crisis countries.

The increase in the use of trade credit before the East Asian crisis probably reflects the increased access to finance of firms in developing countries. The liberalization of capital markets and the deepening of domestic financial systems in many developing countries have increased access

to capital, especially for large, publicly traded companies. This finding of increased access is consistent with a study by Demirguc-Kunt and Maksimovic (2002), which showed that the development of trade credit arrangements between firms complements the development of the banking system. In addition, increased openness to trade may have raised the supply of trade credit in developing countries by increasing trading with firms in more developed financial systems that have greater access to capital than most domestic firms. Finally, the rise in trade credit may be linked to the increased ability of firms in developing countries to sell their accounts receivable for short-term financing, a process known as factoring (box 5.3).

Firms use trade credit when they are not eligible for loans from financial institutions (Petersen and Rajan 1997), and the interest rates on trade credit often are much greater than on loans from commercial banks. Above some level, banks tend to ration credit rather than charge an interest rate that fully compensates it for the risk incurred. Banks do this for two reasons. First, they often find it difficult to judge firms' risk, and, second, charging a very high interest rate will tend to attract risky firms with a high probability of default.

## Box 5.3 Factoring

Factoring is the sale of accounts receivable or invoices to a separate company that will collect the debts. The seller immediately receives from the factor a percentage (often 80 percent) of the face value of receivables, speeding up cash flow. The remaining balance minus interest on the 80 percent and the fees to be paid to the factor are transferred to the company once the customer has paid. In addition to finance, factors also provide credit insurance and financial management services.

Factoring can be an attractive source of credit. It is difficult to use accounts receivable as collateral for bank loans in many emerging markets, owing to the absence of laws allowing lenders to secure intangible or floating assets and the inability of judicial systems to enforce such contracts quickly and efficiently. Furthermore, most emerging markets do not have the technological infrastructure or access to commercial credit information necessary to allow this type of financing. However, almost all middle-income countries allow the assignment or sale of accounts receivable to a third party. In addition, factors specializing in a particular industry may be able to pool information on customers from different clients and thus get a better idea of customers' creditworthiness than the producing firm. This role of the factor can be particularly important in reducing risk for firms selling to overseas markets, where they may know little about customers' creditworthiness.

The factor may retain the right to seek full recourse from the client if a customer does not pay its invoice (recourse factoring), or it may assume the credit risk (nonrecourse factoring). The nonrecourse variant is more common. Due to the dearth of historical credit information, however, and the potential for fraudulent behavior (for example, false accounts receivable or nonexistent customers), nonrecourse factoring in emerging markets often poses substantial risk for the factor. An appealing alternative in such countries can be "reverse factoring," where the factor purchases only receivables from high-quality customers. Because the factor's risk is low, it can do without recourse. In effect, reverse factoring enables the company to borrow on the credit risk of its creditworthy customers.

Total worldwide factoring involving international trade receivables increased by 70 percent in 1997–2001, to almost $50 billion.[a] One reason is that more business is now done on open account, increasing the volume of accounts receivable available for financing. Exporters turn to factoring to avoid the expense and burdensome paperwork associated with letters of credit, while continuing to compete for business using attractive trade credit terms. Factoring remains a relatively minor source of credit in emerging markets, however, averaging about 4 percent of exports in the 26 emerging markets for which data are available (see figure). By contrast, in the G-7 countries (France, Germany, Italy, Japan, the United Kingdom, and the United States), factoring averaged 16 percent of exports.

An efficient legal system that protects creditors' rights is important for the development of a factoring industry (Klapper 2000). For example, countries that permit the assignment of receivables and have secured-transaction laws have a greater factoring volume. Making factoring a legally recognized financial product can strengthen its credibility in the eyes of the public, make it easier for courts to enforce contracts, and remove the disadvantage that factoring firms often face compared to banks (value-added taxes are charged on prepayment interest to factors, but not on the interest received on bank loans). Also important for factoring are good credit information and payments systems and the absence of administrative obstacles to obtaining foreign exchange. Credit insurance for

## Box 5.3 *(continued)*

**International factoring as a percentage of exports in selected countries**


*Source:* Factor Chain International.

factored trade receivables, where available, enables the factor in effect to subcontract risk assessment and credit-risk management. Thus cooperation between factors and export credit agencies can be beneficial for the development of a well-functioning factoring industry.

a. These estimates are from Factor Chain International, established in 1968 as the umbrella organization for independent factoring companies around the world. The members of Factor Chain International represent nearly 60 countries and handle more than 52 percent of international factoring volumes and 44 percent of the total factoring volume.

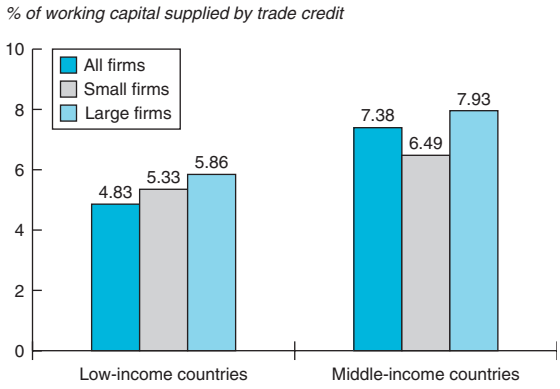
By contrast, suppliers are in a better position to evaluate risk and can thus afford to lend to riskier firms, while charging a high rate of interest.

Suppliers often provide trade credit in the form of a discount for early payment (Wilner 1997; Ng and others 1999). A common contract is a "2–10 net 30" contract, meaning that a customer who pays within 10 days of delivery qualifies for a 2 percent discount. Failure to enjoy the discount for early payment can be considered the interest charge for late payment. If a firm pays on day 30, it has effectively borrowed money for 20 days at an annual interest rate of about 44 percent.[9]

Some firms use trade credit to improve their credit standing, as the seller's extension of credit can signal to a bank that the buyer is creditworthy (Biais and Gollier 1997). Finally, firms using trade credit also benefit from lower transaction costs because the exchange of goods and the exchange of money occur in tandem.

Information from surveys of developing-country firms conducted by the World Bank's Investment Climate Unit between 1998 and 2002 provides further information on the distribution of trade credit during the period.[10] Firms in middle-income countries use trade credit equal to 7.5 percent of their working capital (defined as cash, inventories, and accounts receivable), whereas firms in low-income countries receive trade credit equal to just 5 percent of working capital (figure 5.7). Financial systems in middle-income countries tend to be deeper than those in low-income countries, so firms in the middle-income countries are in a better position to trade with other firms that can provide trade credit. Moreover, in both low- and middle-income countries large firms have more access to trade credit than do small firms, a finding reinforced by evidence from U.S. data that small firms use less trade credit than large ones (Petersen and Rajan 1997). Both findings are

**Figure 5.7 Use of trade credit as working capital, by size of firm**




*Note:* Results are based on more than 9,000 responses from firms in 38 countries. Small firms are firms with fewer than 150 employees. As not all firms in the sample disclose the number of their employees, the average use of trade credit by all firms does not necessarily fall between the average of the small and the large firms.
*Source:* World Bank, Investment Climate Surveys.

consistent with the view that small firms tend to be less creditworthy than larger firms, and that the volume of trade credit is rationed.

Unfortunately the survey does not provide information about the source of trade credit received or the destination of that provided. As such it is impossible to make a distinction between domestic trade credit and cross-border trade credit.

## Access of less creditworthy borrowers to trade finance

Participation in cross-border trade has helped less creditworthy borrowers expand their access to international finance, aided by security arrangements that reduce creditors' risk, by the efforts of official export credit agencies to widen market access for creditworthy countries, and by informational advantages that enable customers and suppliers to extend credit where banks are reluctant.

### *Access to commercial bank loans*

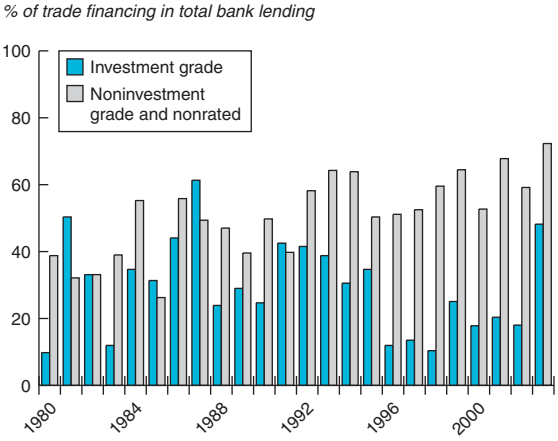
Many low-income and less creditworthy developing countries lack reliable access to commercial banks for many transactions but still can borrow for trade finance.[11] Firms that have established a reputation for reliability in foreign trade may be perceived as more creditworthy than firms selling solely in the domestic market. And international banks are likely to be more familiar with such firms. The rise in outsourcing and in foreign direct investment by multinationals has meant that more firms in low-income countries are either owned by or closely related to multinationals, which can provide references and security for loans. In addition, exporters in low-income countries often enjoy preferential access to foreign exchange and thus may be viewed as better able to service foreign-currency debts than firms producing for the local market.

Another reason why less creditworthy countries may rely more on trade finance than on other forms of bank lending is that trade finance transactions can be structured so that the goods provide security for the loan. Credit may be extended only once goods are received or after the buyer has paid into an offshore escrow account that the lender can access (Coetzee 2003).

Trade finance has thus been able to serve markets that investment bankers have shunned (Kenny and Weston 2003). The new Basel capital accord recognizes the effect of collateral in mitigating the risk of trade finance: short-term, self-liquidating letters of credit arising from the movement of goods are assigned the same risk weighting as short-term claims on investment-grade banks.

Available data indicate that tying borrowing to specific trade transactions can help increase high-risk customers' access to commercial bank loans. In almost every year since 1980, the share of trade finance commitments in total bank lending has been higher for noninvestment-grade or unrated developing countries than for investment-grade countries (figure 5.8). Between 1980 and

**Figure 5.8 Trade finance from commercial banks, by investment rating, 1980–2003**



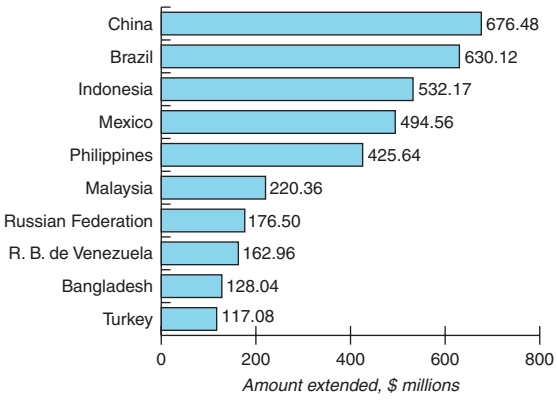

*Sources:* Dealogic Loanware and World Bank staff estimates.

2003, trade financing accounted for only 13 percent of the total bank commitments of investment-grade countries, about 26 percent of bank commitments for noninvestment-grade countries, and almost 40 percent for countries that carried no credit risk rating. Interestingly, investment-grade countries have experienced a gradual decline in their share of trade finance commitments in bank lending, perhaps reflecting their improved access to credit and reduced need to tie borrowing to specific transactions.

### *Access to export credit guarantees*

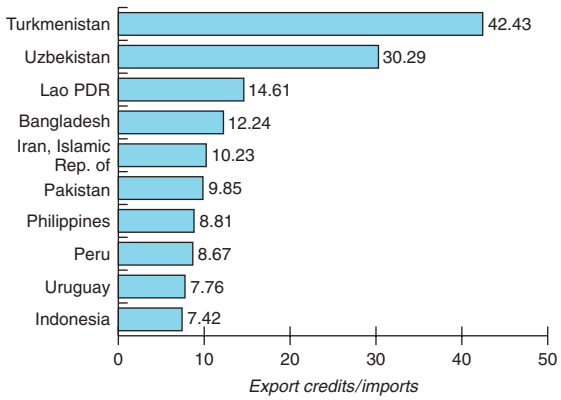
Export credit agencies are an important source of finance for low-income countries. As measured by gross disbursements covered, the middle-income economies have dominated official export credit guarantees to developing countries (figure 5.9).[12] However, considering official export credits as a percentage of imports, noninvestment-grade countries (as defined by their Moody's rating) had the greatest access from 1999 to 2001 (figure 5.10). In relation to the size of their imports, countries such as Bangladesh, the Lao People's Democratic Republic, Turkmenistan, and Uzbekistan were major recipients of loans and guarantees from export credit agencies during that period. In some countries this phenomenon reflects the participation of export credit agencies in projects that are large relative to the size of these economies. But more broadly, it reflects an important mission of export credit agencies—to help their nationals export to high-risk countries.

**Figure 5.9 Countries receiving the most official export credits, 1999–2001**




*Source:* World Bank estimates using OECD data.

**Figure 5.10 Countries with the highest ratios of export credits to imports, 1999–2001**




*Sources:* World Bank staff estimates using OECD data and Moody's credit rating.

**Table 5.1 Ratio of officially supported export credits to imports**

*Percent*

| | Export credits/imports |
|---|---|
| Investment-grade countries | 2.22 |
| Noninvestment-grade countries | 3.98 |
| Nonrated countries | 2.41 |
| Low-income countries | 4.02 |
| Middle-income countries | 2.78 |

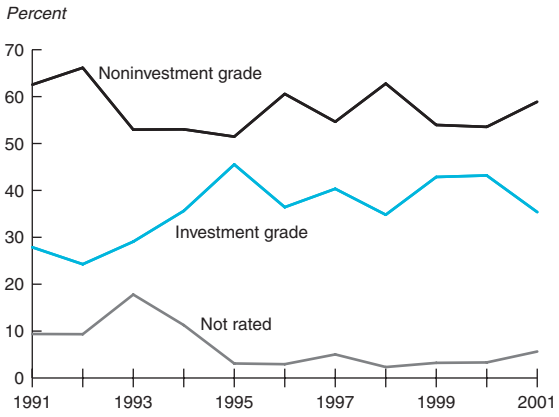
*Source:* World Bank staff estimates using OECD Development Assistance Committee and World Bank data.

There is some evidence that export credit agencies tend to widen access to credit for less creditworthy countries. Noninvestment-grade countries saw 4 percent of their imports covered by export credit guarantees, compared with only about 2 percent of imports for the investment-grade countries (table 5.1). And noninvestment-grade countries consistently accounted for more than 50 percent of export credits over the 1990s (figure 5.11).

### *Trade credit and indirect access to the international capital markets*

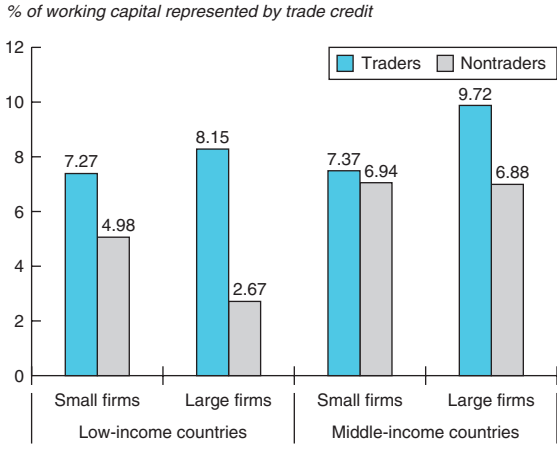
Trade credit from suppliers and customers can help firms in developing countries increase their access to the international capital markets. First, developing-country firms involved in international trade receive trade credit from foreign firms that tap the capital markets for finance. The developing-country firms, in turn, provide trade credit to other firms, thus providing indirect access to finance

**Figure 5.11 Ratio of officially supported export credits to imports, 1991–2001**




*Sources:* World Bank staff estimates using OECD data and Moody's credit ratings.

**Figure 5.12 Use of trade credit to finance working capital, by type and size of firm**




*Source:* World Bank, Investment Climate Surveys, 1998–2002.

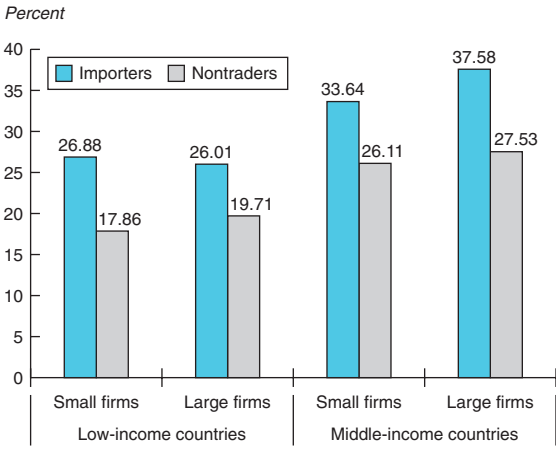
from the international capital markets. Similarly, foreign-owned firms in developing countries face less severe financing constraints than domestic firms; they use their preferential access to finance to provide trade credit to other firms.

Firms involved in international trade use more trade credit than firms that trade only domestically (figure 5.12). The difference between traders and nontraders is much more pronounced among large firms, especially in low-income countries. In low-income countries, for example, large companies involved in international trade finance more than 8 percent of their working capital with trade credit, whereas firms not involved in international trade finance only 2.5 percent of their working capital in that manner. It is not possible to know how much of the trade credit these traders receive is cross-border credit. It is likely that a portion is received from abroad.

To determine whether the link to international capital markets is extended to other firms in the country, we need to focus on importers, as they receive cross-border suppliers' credit while potentially extending trade credit domestically. (Exporters, on the other hand, will extend a large part of their trade credit to foreign firms.) In the low- and middle-income countries alike, importers small and large provide substantially more trade credit than do firms that are not involved in international trade (figure 5.13). Small importers in low-income countries make 27 percent of their sales on credit, compared with 18 percent for small firms not involved in international trade. However, because 52 percent of the importers in our sample also export, we cannot conclude with certainty that trade credit is being extended to domestic firms unless we divide the importers into one group that also exports and another that sells only domestically. Doing this, we see that both groups provide more trade credit compared to the firms that are not involved in international trade (figure 5.14).[13]

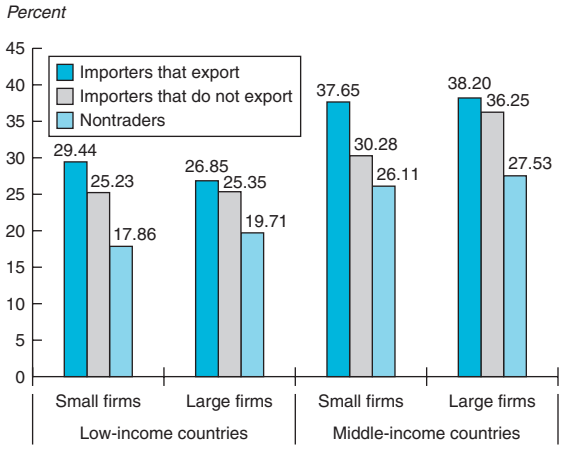
Foreign ownership of domestic firms also can provide indirect access to international finance. Firms that have a foreign company as owner or

**Figure 5.13 Percentage of sales on credit, by type and size of firm**



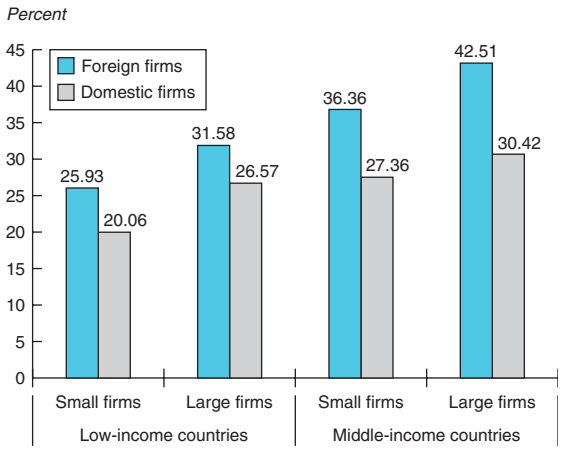

*Source:* World Bank, Investment Climate Surveys, 1998–2002.

**Figure 5.14 Percentage of sales on credit, by type and size of firm**




*Source:* World Bank, Investment Climate Surveys, 1998–2002.

**Figure 5.15 Percentage of sales on credit, by type and size of firm**




*Source:* World Bank, Investment Climate Surveys, 1998–2002.

largest shareholder extend more trade credit than do domestic firms in both low- and middle-income countries (figure 5.15). Small foreign-owned firms in low-income countries make, on average, 26 percent of their sales on credit, whereas domestic firms sell just 20 percent on credit. For small firms in middle-income countries these percentages are 36 percent against 27 percent. The results are comparable for the large firms.

The idea that foreign ownership can alleviate the financing constraints of firms in developing countries is confirmed by other questions in the Investment Climate Unit (ICU) firm-level survey. Of domestic firms, 22 percent in middle-income and 24 percent in low-income countries report that access to financing is a major obstacle for the operation and growth of their business. By contrast, only 11 percent of the foreign-owned firms in the low-income countries and 13 percent in the middle-income countries report that they lack access to financing. Among small firms, foreign-owned firms have better access to financing than do domestic firms.

## Trade finance in times of crisis

Finance linked to international trade has in some cases been more resilient during crises than other forms of debt finance, owing to various reasons already discussed—the existence of security arrangements linked to traded goods, suppliers' information on their borrowers, suppliers' incentives to support customers during cyclical downturns, and government policies directed at maintaining international trade ties. The degree of resilience, however, has varied from crisis to crisis and from one source of trade finance to another. Complicating the picture is the difficulty of determining whether a decline in trade finance during a crisis reflects creditors' decisions or reduced demand. These issues are explored below with reference to the principal sources of trade finance and related support.

### *Commercial banks*

Banks may be more willing to maintain trade-finance credit lines than other loans during a crisis. First, as stated above, the security arrangements underlying many trade finance transactions reduce risk. Second, because governments are so concerned about maintaining trade ties in times of crisis, the central bank may treat trade finance debt more favorably than general bank credit, allowing firms to service trade finance loans while otherwise blocking access to foreign exchange, or by providing better terms to trade finance loans during debt negotiations. Some early debt restructuring agreements—for example, the Philippines' debt restructuring of the late 1970s and the Mexican and Brazilian crises of the 1980s—excluded short-term lending and provided for the maintenance of trade lines. Although this represented a loss of liquidity for creditors—and although the trade lines were maintained on terms

less favorable than those lenders might have preferred—creditors did not typically experience a loss of principal on such lending. This historical precedent could encourage banks to maintain trade credit lines during crises, even when they cut off other forms of lending.

Other factors may work against trade finance during crises. Its risks do rise during crises, due to the costs of litigation (and weaknesses in developing countries' legal systems) if disputes arise after insolvency, as well as the costs of reselling goods. And it may not be favored in a particular situation, just as it was not always given preference in debt restructurings in the 1990s. When it was, the preference was narrowly drawn and typically did not apply to all measures taken to deal with the crisis. For example, in Argentina businesses engaged in foreign trade were more likely to be permitted to transfer funds abroad, but were not assured of being able to do so, and could buy and sell foreign exchange at the official rate. The Russian Federation excluded some, but not all, trade loans from the 90-day moratorium on foreign exchange payments following the 1998 default. But trade finance enjoyed no preference at all in the Mexican peso crisis (Samberg 2002). The May 1998 Frankfurt Agreement between Indonesia and its international private creditors provided for the payment on $1.4 billion of trade finance arrears, in return for which banks agreed to maintain trade lines in Indonesia. On the other hand, no distinction was made between trade finance and other loans in the government-guaranteed agreement by commercial banks to restructure bank debt in Korea or in the banks' agreement to maintain credit lines to Brazil between February and August 1999.

One reason that trade credit was not always afforded differential treatment in the 1990s was that the easing of capital controls (under which trade finance transactions often enjoyed preferential access to scarce foreign exchange) and the movement away from detailed documentation requirements underlying trade finance transactions have blurred the lines between trade credit and other forms of short-term financing (IMF forthcoming).

The inconsistent treatment may be one reason why trade finance has not held up in recent crises. In Argentina, export and import financing lines broke down in the run-up to the crisis of late 2001, with many credit lines cancelled, both for international banks operating in Argentina and for domestic banks. In Brazil, trade financing declined in both 1998 and 2002. In 1998, trade finance had risen thanks to its privileged position in the capital control regime and the strong incentive to borrow abroad, which was due to the large differential between domestic and international interest rates and the de facto crawling exchange rate. As a result, trade credit rose strongly in 1995–98, but these positions unwound rapidly as the crisis approached.[14] Trade lines to Brazil also contracted sharply in 2002, as lenders became increasingly concerned about Brazilian prospects and future policies. Outstanding credit lines connected to trade fell from $24 billion in March 2002 to just $16 billion by the end of the year. By contrast, other credit lines rose marginally. In addition, maturities on remaining facilities plummeted, while interest rate spreads rose from about 100 to 600 basis points (IMF forthcoming). As confidence has recovered since, trade lines have picked up—but only moderately.

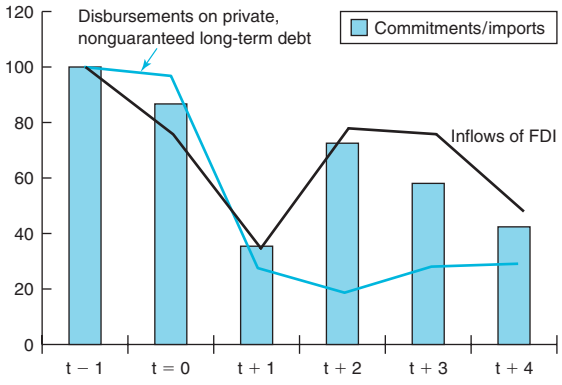
Trade finance also dropped sharply to Indonesia, Malaysia, and Thailand following the East Asian crisis. Many banks failed to distinguish between trade finance and other loans when reducing country exposure. In part this reflected concern over the solvency of local banks. It was reported that international banks refused to confirm or underwrite letters of credit opened by local Indonesian banks at the peak of the crisis (Auboin and Meier-Ewert 2002). Unfortunately, the balance-of-payments reports from these countries do not distinguish between bank finance devoted to trade and lending for other purposes. Data from publicly announced transactions, however, do reflect a collapse of trade finance to the three countries, from $1.6 billion in commitments in 1997 to $150 million in 1998. This decline reflected both creditors' concerns about their exposure, and the fall in demand as exchange-rate depreciation and the severe recession reduced imports. Even after the crisis, banks that continued to lend for trade finance returned to the use of letters of credit and other documentary requirements that had largely been abandoned (Power 1999; Anonymous 1999).

### *Export credit agencies*

New commitments by export credit agencies have fallen to countries facing financial crises. Taking

**Figure 5.16 New commitments of export credit agencies in years following crises**

*Index numbers, base year t − 1 = 100*




*Source:* World Bank staff estimates using Berne Union data.

the median of a sample of eight countries affected recently by crisis, new commitments fell by 60 percent relative to imports in the year following the crisis (figure 5.16).[15] New export credit commitments to these countries moved in line with foreign direct investment, falling less sharply than disbursements on nonguaranteed loans from private sources.

Thus, the decline in new commitments following crises did not necessarily represent a run for the exit by export credit agencies. Indeed, industrial-country governments often wish to keep lines of trade credit open to support allies, sustain market confidence to reduce contagion, and avoid the need for expensive bailouts (Stephens 1998). For example, during the Korean crisis, the Export-Import Bank of the United States provided short-term insurance for more than $1 billion in U.S. sales to Korea (Auboin and Meier-Ewert 2002). Also, Japan's export credit agency provided financing through the Bank of Indonesia to guarantee payment of letters of credit issued by local banks, although the facility was hardly used (IMF forthcoming).

Rather than reluctance on the part of export credit agencies, it is more likely that the decline in new commitments to East Asia (relative to imports) represents decreased demand from exporters in industrialized countries (Cline 2001).

### *Trade credit from suppliers and purchasers*

Trade credit may be more stable during crises than bank lending or bond flows for two reasons. First, relationships between customers and suppliers normally involve considerable sunk costs (Cunat 2000), so suppliers in industrial countries may be reluctant to cut off their customers during crises. Second, suppliers' informational advantages may lead them to maintain credit lines during crises in which contagion is playing a part; that is, where a particular firm's (or country's) fundamentals are strong, but investors are blindly cutting off credit because they cannot distinguish effectively among firms (or countries). Under such circumstances, suppliers are less likely to suffer from myopia.

Studies of industrial countries indicate that trade credit is more resilient than bank lending during a credit crunch. For example, Nilsen (2002) shows that during monetary contraction small and large firms without a bond rating react by borrowing more from their suppliers. Mateut and others (2002) find that the absolute level of trade credit taken up by manufacturing firms in the United Kingdom increases by 19 percent during a period of monetary tightening, while the ratio of bank lending to trade credit decreases from 1.19 to 0.66. Furthermore, they show that it is mostly the small, financially weaker firms that are excluded from bank lending and thus resort to trade credit.

The impact of financial crises on trade credit in developing countries has been mixed. During the Mexican and Asian crises, stronger firms extended more and took less credit, while financially constrained firms took more credit from their suppliers (Love and others 2003). By contrast, Love and Zaidi (2003) found no evidence of resilience of trade credit for small- and medium-sized enterprises in countries affected by the Asian crisis. Both the percentage of output sold on credit and the percentage of input bought on credit were lower after the crisis. The decrease was even more pronounced for firms with only limited access to bank lending.[16] Using the same database as Love and Zaidi (2003), we also find a fall in the use of trade credit in Indonesia, Korea, and Thailand after the crisis.[17] On average, the share of inputs financed by trade credit fell by 10 percent. In addition, credit terms deteriorated: the average length of loans fell by 7 percent, while the implicit interest rate rose by 40 basis points. Although less than a third of the firms were affected by the deterioration in the volume and terms of trade credit, all major sectors covered by the survey showed a marked deterioration.

**Table 5.2 Use of trade credit before and after East Asian crisis of 1997–98**

*Percent*

| | Before crisis | After crisis | % change | % of firms with deterioration |
|---|---|---|---|---|
| Share of input financed by trade credit | 77.7 | 69.7 | −10.3 | 32.3 |
| Length of trade credit (days) | 69.1 | 54.2 | −7.1 | 27.3 |
| Discount terms | 8.5 | 8.9 | 4.7 | 32.7 |

*Source:* World Bank, Asian Corporate Crisis and Recovery Firm-Level Survey. See Dwor-Frecaut, Colaco, and Hallward-Driemeier (2000).

Nevertheless, the decline in the volume of credit and deterioration in its terms during the East Asian crisis were much more pronounced for bank lending than for trade credit. The share of bank lending in finance external to the firm dropped by 15 percent after the crisis, compared with 10 percent for trade credit (table 5.2), with almost half the firms experiencing a deterioration. Moreover, while the survey does not provide the interest rate paid on bank lending, there is no doubt that bank interest rates increased by much more than the 40 basis point rise in trade credit. The rise in the money market rate (one indicator of financial conditions) from June 1997 to March 1998 was 44 percentage points in Indonesia, 9 percentage points in Thailand, and 12 percentage points in Korea. The greater drop in bank finance, relative to trade credit, is also apparent from the fact that of firms that faced an output decline after the crisis (72 percent of the firms in our sample), 45 percent considered insufficient bank credit to be a major reason for the decline, while only 34 percent identified insufficient suppliers' credit as a major reason.

Unlike the finding in a previous section—that firms involved in international trade had greater access to trade credit than other firms—international trade did not help firms maintain access to trade credit after the East Asian crisis. Thirty-seven percent of importers experienced a fall in trade credit use, compared to 36 percent of exporters and 33 percent of the firms that bought and sold only on the domestic market. While importers may have had access to trade credit from foreign firms that were less affected by the crisis than domestic suppliers, the creditworthiness of importers was hit hard by crisis-induced currency devaluation. While exporters benefited from the devaluation, a significant share of their suppliers were probably domestic firms that experienced a deterioration in their ability to extend credit. Moreover, many of the suppliers to both exporters and importers may have been from other Asian countries affected by the crisis and hence also were less able to supply trade credit.[18] It also is possible that the foreign-exchange exposure of firms involved in the survey was higher than normal before the crisis.

The earlier finding that foreign-owned firms enjoy better access to trade credit than do domestically owned firms is confirmed by the data on the East Asian crisis. Less than 20 percent of foreign-owned firms showed a drop in the provision of trade credit after the crisis, versus more than 30 percent of the firms without foreign equity.[19] This suggests that foreign investment in domestic firms can provide an extra benefit—trade credit from these firms will be less affected by turmoil than will credit from domestically owned firms.

Clearly, we are at the early stages of investigating the relationship between developing-country crises and trade credit from suppliers and purchasers. The survey data now becoming available should support further research in this and other areas. For the moment, however, the data are insufficient to answer with certainty some of the key questions addressed in this chapter. Future research will benefit greatly from information that distinguishes between domestic and external sources of trade credit provided to developing-country firms. Eventually, larger surveys, or more comprehensive reporting requirements, will be necessary to estimate the total volume of trade credit more reliably. In general, one lesson from this chapter is that expanding the data available for each of the major sources of trade finance—commercial banks, export credit agencies, private insurers, multilateral development banks, and other firms—would greatly improve our understanding of the impact of trade finance on developing countries.

## Notes

1. The data on trade finance provided by commercial banks are taken from the Loanware database, which reports the purpose of each loan, including "trade finance." These transactions are reported by the trade financing desks of international banks.

2. Because the database of the Bank for International Settlements does not include a breakdown by the purpose of the loan, it is impossible to say whether trade finance transactions are more under-reported than other transactions. The estimated stocks of syndicated loans (assuming that new facilities are fully drawn and no early repayments are made) in the Loanware database are equal to about half of the outstanding loans reported by the Bank for International Settlements to Latin America and developing Europe, but to about 100 percent of loans to Asia, Africa, and the Middle East (Gadanecz and von Kleist 2002).

3. The 10 countries are Brazil, India, Indonesia, the Islamic Republic of Iran, Mexico, Pakistan, the República Bolivariana de Venezuela, the Russian Federation, Thailand, and Turkey.

4. The Berne Union is a collection of 51 export credit agencies and insurance companies from 42 countries. It includes the World Bank Group's Multilateral Investment Guarantee Agency. A portion of the business covered by export credit agencies includes interest payments due, so that the stock of business covered is not the same concept as the stock of debt.

5. Although short-term business generally provides a better indication of trade finance from Berne Union members, medium- to long-term business includes capital goods imports and longer-term trade contracts, which are important lines of trade business.

6. The OECD reports data on export credit disbursements with a repayment term of one year or more. The data are aggregated; that is, they are not broken down by transaction. It also reports data on officially supported export credits with a repayment term of five years or more, on a transaction-specific basis. Comparing OECD and Berne Union data is problematic, as the former refers to the stock of business covered, and the latter to the flows covered. The two databases also differ in populations, methodology, and type of business covered. However, the OECD is the only known source of data on flows from export credit agencies.

7. The Knaepen Package was a set of measures incorporated into the OECD's Arrangement on Guidelines for Officially Supported Export Credits, covering minimum country-risk-premium rates and standards for determining country risk categories.

8. The Worldscope database includes information on publicly traded firms of significant interest to international investors. Firms in the financial and service sectors, and countries with only a small number of firms providing information on use and provision of trade credit, were excluded from our sample. The measures of accounts receivable relative to total sales and accounts payable relative to total sales exclude credit extended by customers through prepayments. The data are taken from the yearly financial statements of the firms in the sample.

9. In some cases no discount for early payment is offered; in other words, the firm receives an interest-free loan. Often no penalty is charged for late payments, which can reduce the aforementioned rates by two-fifths (Wilner 1997). However, even with this reduction the annual interest rates paid on trade-credit loans far exceed the interest rates paid on bank loans.

10. The firm-level surveys of the World Bank's Investment Climate Unit (conducted between 1998 and 2002) include quantitative indicators such as sales, supplies, ownership, and sources of finance and employment levels, along with qualitative questions about the business environment and the motivation to do business. Currently data are available for 38 countries. Excluded from consideration here are countries with no information on the use and provision of trade credit by their firms. The number of survey respondents ranges from nine to ten thousand, depending on the question. Only a subset of these firms made data available on their size, their trading behavior, and their ownership, reducing the number of firms on which the estimates in the main text are based.

11. Middle-income countries can also expand their access to capital through trade finance. For example, emerging Eastern European countries have used structured trade finance to expand the amount and extend the term of financing beyond what was available in the capital markets (Lennkh and Schoeller 2003).

12. The data on gross disbursements covered are taken from the OECD and differ from the Berne Union data (used in figure 5.3), which reflect the stock of business covered.

13. The higher trade credit provided by importers that also export may be a sign that firms that trade with companies from developing countries demand a guarantee of the quality of products they buy before they pay, as they realize it could be very difficult to obtain a refund from firms in countries with a slow judicial system. This is confirmed by the fact that firms that export provide on average more trade credit than their nontrading counterparts in both the low- and middle-income countries.

14. It is not clear to what extent the rise in trade finance reflected commercial bank loans or suppliers' credits.

15. The eight countries are Argentina, Brazil, Indonesia, Malaysia, the Philippines, the Russian Federation, Thailand, and Turkey.

16. Love and Zaidi (2003) use five measures to determine access to bank lending: declined loan applications, reliance on bank loans, restrictiveness in bank credit, sustainability in loan repayments, and constraints in short-term bank loans for working capital.

17. The Asian Corporate Crisis and Recovery Firm-Level Survey, conducted by the World Bank in Indonesia, Korea, the Philippines, and Thailand between November 1998 and February 1999, covers about 3,000 mainly small and medium-sized enterprises in the manufacturing sector (Dwor-Frecaut, Colaco, and Hallward-Driemeier 2000). The survey suffers from a survivorship bias. As the survey was carried out after the crisis, those firms that were most vulnerable at the onset of the crisis are not represented. We have excluded firms in the Philippines due to some inconsistencies in the data.

18. The survey does not provide information about the country from which the firm imports its inputs.

19. Information on foreign ownership is not available for Indonesian firms. The foreign-owned firms include firms that have a foreign majority shareholder.

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