

# TRADE CREDIT VERSUS BANK CREDIT DURING FINANCIAL CRISES

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The 2008–09 global financial crisis is one of historic dimensions. Few would dispute its rank as one of the broadest, deepest, and most complex crises since the Great Depression. Its origins were in the U.S. subprime housing finance market, which showed signs of trouble in the first half of 2007. After Wall Street investment firm Lehman Brothers collapsed in September 2008, the crisis spread rapidly across institutions, markets, and borders. Both developed and developing countries faced massive failures of financial institutions and a staggering collapse in asset values.

This financial crisis was characterized by a severe credit crunch as the banks became reluctant to lend to even the highest-quality firms. Financing constraints tightened for many firms, leading them to cut investments in capital as well as research and development (R&D) and to bypass attractive investment projects (Campello, Graham, and Harvey 2009). Trade credit is an alternative source of finance provided by suppliers of raw materials and other inputs. It potentially serves as an important source of finance to financially constrained firms because suppliers might be better able than financial institutions to overcome informational asymmetries and enforcement problems. This advantage may enable suppliers to lend more liberally than banks, especially during downturns.

This chapter explores the role of trade credit and its relationship to bank credit during financial crises, including the following discussions:

- Theories of trade credit
- The relationship between trade credit and bank credit, with a focus on financial crises
- Empirical evidence from two related papers—(1) a study of the effect of the 1997 Asian financial crisis on large, publicly listed firms using data from the Worldscope database (Love, Preve, and Sarria-Allende 2007); and (2) a study of the same crisis using data on small and medium enterprises (SMEs) from World Bank enterprise surveys (Love and Zaidi 2010)—with a comparison of results from the two studies and explanations for the differences
- Findings based on the comparative analysis of the two studies.

### **Theories of Trade Credit**

Numerous theories seek to explain the provision of trade credit by suppliers. These theories often pertain to particular aspects of market structure and product characteristics and suggest that certain industries or firms may have a greater ability to use trade credit than others. Most theories of trade credit provision fall into one of the following categories, each of which is briefly reviewed below:

- Comparative advantage in information acquisition
- Comparative advantage in liquidation
- Warranty for product quality
- Price discrimination by suppliers
- Sunk costs and customized products
- Moral hazard.

#### ***Comparative Advantage in Information Acquisition***

One common explanation for existence of trade credit is based on the premise that *suppliers have a cost advantage over banks in acquisition of information* about the financial health of the buyers. For example, Mian and Smith (1992) argue that monitoring of credit quality can occur as a by-product of selling if a manufacturer's sales representatives regularly visit the borrower. Similarly, suppliers often offer a two-part trade credit, which includes a substantial discount for relatively early repayment such as a 2 percent discount for payments made within 10 days. The failure of a buyer to take this discount could serve as a strong early signal of financial distress.

Biais and Gollier (1997) assume that suppliers receive different signals than banks do about the customer's probability of default and, furthermore, that the bank will extend more credit if it observes that the supplier has offered trade credit. Similarly, Smith (1987) argues that the choice of trade credit terms can be used as a screening device to elicit information about buyers' creditworthiness.

### ***Comparative Advantage in Liquidation***

Another hypothesis about the availability of trade credit concerns *suppliers' relative advantage in liquidating repossessed goods*. Trade credit providers can liquidate the goods they repossess in the event of nonpayment much easier than specialized financial institutions can. Therefore, several authors have suggested that credit provision becomes more likely when resale of the product is easier because the credit extension allows the seller to seize and resell its product if default occurs (Mian and Smith 1992; Frank and Maksimovic 1998).

### ***Warranty for Product Quality***

Some argue that *trade credit serves as a guarantee for product quality*, under the theory that the supplier willingly extends credit to allow the customer sufficient time to test the product (Long, Malitz, and Ravid 1993). Similarly, the choice of trade credit terms offered by the supplier can signal product quality (Lee and Stowe 1993; Emery and Nayar 1998).

### ***Price Discrimination by Suppliers***

Another theory involves *price discrimination as a motive for trade credit provision by suppliers*. Low competition among suppliers in an input market may create incentives to discriminate between cash and credit customers (Brennan, Maksimovic, and Zechner 1988). This price discrimination would happen if, first, the demand elasticity (or the reservation price) of credit customers is lower than that of cash customers, and second, if there is adverse selection in the credit market.

In addition, trade credit could be used as a strategic instrument in the oligopolistic supplier market. Recent empirical evidence confirms that firms with less market power do indeed extend more credit (Fabbri and Klapper 2009) and that a customer that generates a large share of its supplier's profits tends to be offered more credit (Giannetti, Burkart, and Ellingsen 2008).

### *Sunk Costs and Customized Products*

Repeated interactions between suppliers and customers can also result in *sunk costs*, which can drive trade credit provision. Cuñat (2007) offers a model in which supplier-customer relationships that involve tailor-made products, learning by doing, or other sources of sunk costs, generate a surplus that increases with the length of the relationship. This surplus increases the amount of credit that suppliers are willing to provide because it ties firms to particular suppliers, thereby increasing the scope for punishment of nonpayment.

One theory includes product quality guarantees, market power, and sunk costs to generate a model of trade credit terms that are uniform within industries and differ across industries (Smith 1987). Ng, Smith, and Smith (1999) present empirical support for this model by documenting wide variation in credit terms *across* industries but little variation *within* industries.

### *Moral Hazard*

Burkart and Ellingsen (2004) argue that *moral hazard is the key reason for existence of trade credit*. Firms with access to funding to buy illiquid assets are less tempted to engage in activities that are undesirable from the investors' point of view. Because in-kind credit is too difficult to divert to other uses, potential moral hazard problems on the borrower's side are reduced when trade credit is extended.

## **Relationship between Bank Credit and Trade Credit**

So far, this chapter has discussed the reasons for the existence of trade credit. Because trade credit is, in some ways, similar to short-term bank credit (especially working capital finance offered by the banks), it is important to examine the relationship between trade credit and bank credit. This relationship has important implications for trade finance policy.

There is no clear-cut evidence concerning whether trade credit and bank credit are complements or substitutes. Some researchers posit that trade credit is complementary to bank credit. For example, Biais and Gollier (1997) hypothesize that the extension of trade credit reveals favorable information to other lenders, thereby increasing their willingness to lend. Giannetti, Burkart, and Ellingsen (2008) find empirical support for this argument, specifically that firms that use trade credit tend to borrow from a larger number of banks, use more distant banks, and have shorter relationships with their banks. Additionally, these firms receive better deals from banks—in particular, lower fees for their credit lines. This analysis suggests that trade credit and bank credit are complements rather than substitutes.

Other literature has argued that trade credit could compensate for unavailable bank credit, serving as a substitute. For example, Fisman and Love (2003) find that firms in industries with greater reliance on trade credit exhibit faster growth in countries with low levels of financial development. They argue that trade credit provides an alternative source of funds, which allows higher growth rates in industries that can be characterized as intense trade credit users.

In addition, trade creditors may have more incentives than banks to support firms that experience temporary liquidity shocks. For example, because trade credit is predominantly based on long-term relationships and likely to involve sunk costs, suppliers have an interest in keeping their customers in business (Cuñat 2007). To maintain a product-market relationship, trade creditors that are more dependent on their customers' business grant more credit to financially distressed customers than banks do (Wilner 2000). During monetary contractions, small firms are more likely to rely on supplier credit (Nilsen 2002). In addition, credit-constrained firms extend less trade credit to their customers and take more trade credit from their suppliers (Petersen and Rajan 1997).

Whether they are complements or substitutes, trade credit and bank credit have an important relationship during financial crises, which are characterized by the sharp contraction of bank lending. During financial crises, the banks become more reluctant to lend, thus exacerbating the financing constraints. In turn, firms cut investments in capital and R&D and are more likely to bypass attractive investment projects (Campello, Graham, and Harvey 2009). A priori, it is not clear whether trade finance can serve as a substitute for bank finance during the crisis, or whether, because of their complementarity, the collapse in one may exacerbate the collapse in the other.

In a systemic financial crisis, liquidity shocks experienced by some firms might be transmitted to other firms through supply credit chains. The existing theoretical models (for example, Cuñat 2007 and Wilner 2000) deal only with a single customer's distress event rather than a systemic shock that might affect all suppliers and customers alike. During such periods, the supply chains might instead propagate and amplify the liquidity shocks (Raddatz 2010).

The intuition behind the propagation mechanism is straightforward: a firm that faces a default by its customers may run into liquidity problems that force it to default on its own suppliers. Therefore, in a network of firms that borrow from each other, a temporary shock to the liquidity of some firms may cause a chain reaction in which other firms also suffer financial difficulties, resulting in a large and persistent decline in aggregate activity. Liquidity shocks are passed down the supply chain from defaulting customers to a firm's suppliers, while firms with access to outside liquidity absorb these shocks with their "deep pockets" (Boissay and Gropp 2007).

During a financial crisis, such “liquidity shock chains” can operate in reverse. Firms that face tightening financing constraints as a result of bank credit contraction may withdraw credit from their customers. Thus, they pass the liquidity shock up the supply chain; that is, their customers might cut the credit to their customers, and so on. The firms that are privileged enough to have access to outside finance—that is, the “deep pockets” (Boissay and Gropp 2007)—might be the ones most severely affected by the crisis. After all, if a firm does not have bank finance to start with, the banking crisis will have little direct effect on its financial condition. The suppliers to financially constrained firms may also reduce the trade credit they extend, either because they are financially constrained (if the liquidity shocks are highly correlated) or because they choose to withdraw credit from their less-creditworthy customers. Thus, the supply chains might propagate the liquidity shocks and exacerbate the impact of the financial crisis.

### **Impact of Financial Crisis on Trade Credit: Empirical Evidence**

Two recent studies examined trade credit behavior during the 1997 Asian financial crisis. This section summarizes the empirical results from each paper, and the next section discusses the papers’ commonalities and differences.

#### *Trade Credit in Large, Publicly Traded Firms*

Love, Preve, and Sarria-Allende (2007) studied two of the four major financial crises during the 1990s: the Mexican devaluation of late 1994 and the Southeast Asia currency crisis of mid-1997, which affected Indonesia, Malaysia, the Philippines, the Republic of Korea, and Thailand. The authors used data from the Worldscope database, which contains observations on publicly traded firms representing about 95 percent of the world’s market value.<sup>1</sup> Because this database focuses largely on those firms in which there is significant international investor interest, the sample represents the largest firms in each country.

The nature of this dataset, which comes from audited financial statements, dictated the trade credit measures used in the analysis. The two main variables of interest are accounts payable and accounts receivable, which show the amount of trade credit that firms obtain from suppliers and provide to customers, respectively. These trade credit variables are scaled using sales (for receivables) and cost of goods sold (for payables). These ratios capture the importance of trade credit in the financing of economic activity. Using ratios scaled by flow variables controls for declines in economic activity (such as sales) that are commonly associated with crises.

The study presents two types of results: the aggregate behavior of trade credit (the average for all firms) and an analysis of the heterogeneous responses of firms of varying financial health preceding the crisis.

### Aggregate behavior of trade credit

Love, Preve, and Sarria-Allende (2007) found two main aggregate results: (a) a short-lived *increase* in the amount of trade credit provided and received immediately after a crisis and (b) a pronounced *decline* in the amount of credit provided (as opposed to credit received) in the aftermath of the crisis, an amount that continued to contract for several years.

The first result has a straightforward plausible explanation: after a crisis hits, buyers stop paying suppliers, and credit accumulates until either the suppliers take the write-downs or the buyers resume repayment. In other words, in the chaos of a crisis, everybody stops paying back their trade credit debt, at least temporarily. Indeed, Cuñat (2007) argues that the ability to delay repayment on trade credit in the case of temporary illiquidity is among the likely reasons for the high costs of trade credit.

However, the second result—the prolonged decline in trade credit provided—is harder to disentangle because there are two alternative explanations: on the one hand, a decline in the provision of trade credit could be the result of a supply effect; that is, firms that lack access to bank financing reduce the supply of credit they are willing to extend to their customers. On the other hand, this same pattern could be consistent with a demand-side story—that customers of these firms become less willing to accept more credit.

### Analysis of heterogeneous firm responses

To disentangle the reason for decline in trade credit after the crisis, Love, Preve, and Sarria-Allende (2007) analyze the heterogeneous responses of firms, allowing a unique identification strategy that relies on precrisis indicators of a firm's vulnerability to financial crises. Firms in more vulnerable financial positions are more likely to be negatively affected by crisis-related events and are thus more likely to reduce their supply of credit to customers while increasing their own use of credit from suppliers. The authors used a firm's reliance on short-term debt as the main indicator of financial vulnerability to a crisis. Firms with a high proportion of short-term debt are more likely to be disadvantaged by a crisis because they would need to roll over their debt at a time when it is either impossible or extremely costly to do so (because interest rates increase sharply during the crisis).

The main findings of the heterogeneous analysis is that firms with high short-term debt reduce their provision of trade credit relatively more in response to an aggregate contraction in bank credit, which is consistent with a reduction in the supply of trade credit caused by the crisis. The authors also find similar results using alternative indicators of a firm's financial health, such as foreign currency-denominated debt, cash stocks, and cash flows.

These results are consistent with the redistribution view advanced by Meltzer (1960), Petersen and Rajan (1997), and Nilsen (2002), among others. This view

posits that firms with better access to capital will redistribute the credit they receive to less-advantaged firms through trade credit. However, for redistribution to take place, some firms first need to raise external finance to pass on to less-privileged firms. For example, during monetary contractions in the United States, large firms have increased the issuance of commercial paper (Calomiris, Himmelberg, and Wachtel 1995) and accelerated bank credit growth, while small firms have reduced these instruments (Gertler and Gilchrist 1994). Such access to alternative sources of finance in the United States likely explains the aggregate increase in trade credit during monetary contractions (Nilsen 2002). However, during a financial crisis, alternative sources of financing become scarce as stock markets crash and foreign lenders and investors pull out their money. That is, as all the potential sources of funds dry up, there may be nothing left to redistribute through trade credit.

Love, Preve, and Sarria-Allende (2007) argue that their findings expand the traditional “redistribution view” because redistribution shuts down when all sources of finance dry up, such as during a financial crisis. The credit crunch that affects financial lenders also affects nonfinancial lenders of trade credit. Consistent with this argument, the authors also find that countries that experience a sharper decline in bank credit also experience a sharper decline in trade credit.

### *Trade Credit in SMEs*

Love and Zaidi (2010) extend the work of Love, Preve, and Sarria-Allende (2007) along two dimensions. First, they study trade credit behavior of SMEs, which commonly have less access than large public firms to bank finance. Small firms also differ in their trade credit behavior (Nilsen 2002; Boissay and Gropp 2007). Second, the authors use detailed data on trade credit terms—the length of payables and receivables and early payment discounts—while Love, Preve, and Sarria-Allende (2007) use only data on the amount of credit from firms’ balance sheets.

Love and Zaidi (2010) use a unique dataset based on a World Bank survey after the 1997 financial crisis in four East Asian countries: Indonesia, Korea, the Philippines, and Thailand. About 3,000 firms were surveyed about the impact of crisis, access to sources of finance before and after the crisis, and their prospects for recovery.

As in the earlier study, Love and Zaidi obtained two types of results: aggregate average trade-credit behavior after the crisis and the heterogeneous results for firms with various financial positions.

### **Aggregate behavior of trade credit**

The aggregate results show that, on average, the use of trade credit declines after the crisis—shown in the decline in the percentage of inputs the sample firms buy

on credit from their suppliers (accounts payable) and the percentage of sales they extend on credit to their customers (accounts receivable). In addition, the length of payables declines in three out of four countries, but there is mixed evidence on the length of receivables.

Notably, the cost of credit increases because firms offer higher discounts on cash repayments after the crisis. Thus, trade credit use becomes more expensive and more restrictive during the crisis than it was before the crisis.

### **Analysis of heterogeneous firm responses**

In studying the heterogeneous responses of financially constrained firms, the authors use two key indicators. The first is an objective measure that separates firms that applied for a bank loan but were declined the loan before or after the crisis. Firms that submitted a loan application have revealed their demand for more bank finance, and the rejection indicates financing constraints. The second measure is a subjective perception measure based on survey responses that access to domestic bank finance became more restrictive during the crisis.

Love and Zaidi (2010) find two main results from the heterogeneous responses. First, financially constrained firms extend less credit to their customers (in terms of both percentage of output sold on credit and length of time they allow their customers for payment), and they charge more for the trade credit they do offer. Second, financially constrained firms buy a smaller percentage of inputs on credit, have a shorter length of time to repay the credit to their suppliers, and have to pay a higher cost for trade credit.

The first finding has an easy interpretation: firms that face financial constraints have to cut the credit they provide to their customers. Thus, they pass on their liquidity shock upstream to their customers, who in turn may cut trade credit to their own customers. In this way, the liquidity shock travels along the supply chain, consistent with the previous evidence in Boissay and Gropp (2007) and Raddatz (2010).

The second finding is more difficult to disentangle because the dataset does not contain any information on the financial position of the firm's suppliers. Two possible cases might affect the interpretation of this finding. First, the suppliers of the financially constrained firms might themselves be financially constrained. Note that, on average, all firms are expected to become more constrained during the crisis because of the systematic nature of financial crisis. However, some firms are likely to be more constrained than others, and the suppliers of more severely constrained firms might also be more severely constrained than an average firm. In other words, this case implies a high correlation between suppliers' and customers' financing constraints, which is consistent with Raddatz (2010). If this is the case, the second result has the same interpretation as the first: that suppliers simply pass their liquidity shock up the supply chain to their customers.

However, an alternative interpretation is possible if suppliers' financing constraints are not highly correlated with their customer's financing constraints. In other words, suppliers of firms identified as financially constrained might, on average, be no different (at least in the degree of financing constraint) from suppliers of firms identified as unconstrained. In this case, the second result suggests that suppliers of financially constrained firms are not willing to lend them a "helping hand," and they withdraw credit from less-creditworthy firms.

Although Love and Zaidi (2010) cannot disentangle which of the two possibilities is indeed the case, their results unambiguously show that negative shocks to the supply of bank credit cannot be mitigated by an increase of trade credit—and this finding has clear policy implications.

### **Comparison of the Two Studies**

The aggregate results of both studies appear to tell the same story—of a prolonged decline in trade credit provision after financial crises. Thus, one of the main results is the same in both studies.

The ancillary aggregate result of Love, Preve, and Sarria-Allende (2007)—that of a temporary increase in trade credit during the initial stage of the crisis—is not borne out in the second study (Love and Zaidi 2010). The differences in the datasets can easily explain this difference. Love, Preve, and Sarria-Allende (2007) used a panel of annual observations that allowed the authors to track responses of firms over time—that is, in Year 0 (the year of the crisis) and several subsequent years. However, Love and Zaidi (2010) used data containing only two observations—one before crisis and another after the crisis. Thus, no time series patterns can be observed. It is plausible that SMEs also experienced a short-lived increase in trade credit before the prolonged decline; this finding would still be consistent with the observed patterns.

The two studies show both differences and similarities among the heterogeneous results. Both find that firms in more difficult financial positions cut trade credit to their customers. This is an important finding, which is robust to different samples (large firms versus SMEs) and different definitions of financial position (short-term debt in one case and subjective or objective measures of financial constraints in another case). Thus, on the receivable side, both papers' findings are similar.

The differences, however, exist on the payable side—that is, the credit that sample firms obtained from their suppliers. Love and Zaidi (2010) find that financially constrained firms received less trade credit from their suppliers during the crisis, either because suppliers themselves were constrained or because they were unwilling to offer assistance to their distressed customers. However,

Love, Preve, and Sarria-Allende (2007) find that more-constrained firms (firms with higher proportions of short-term debt) increased their reliance on trade credit during the crisis.

This difference may arise because of the differences in the sample composition. In Love, Preve, and Sarria-Allende (2007), the sample consisted of large, publicly traded firms, while the Love and Zaidi (2010) sample consisted mainly of private SMEs. Large, publicly traded firms have more market power, which increases their suppliers' willingness to extend them extra trade credit (Brennan, Maksimovic, and Zechner 1988; Giannetti, Burkart, and Ellingsen 2008). Consistent with this hypothesis, Love and Zaidi (2010) look separately at the largest firms in their sample (dominated by SMEs) and find that larger firms increased their reliance on trade credit during the crisis (in terms of increasing the percentage of inputs bought on credit).

Despite the differences in the datasets, sample firms, and study design, the two studies appear to have more similarities than differences. The aggregate results of both papers suggest a prolonged decline in trade credit after the crisis. The heterogeneous results suggest that this decline is due to the supply effect because firms that are more constrained in their access to bank finance cut their trade credit provision more than firms that are less constrained. Both studies are consistent with the view that liquidity shocks propagate along the supply chain (Raddatz 2010).

## Conclusions

The studies discussed above show that trade credit cannot fully compensate for the long-term contraction in bank credit that stems from a financial crisis. These findings also suggest a complementarity of bank credit and trade credit, which can operate in both directions. In other words, a contraction in trade credit may exacerbate a contraction in bank credit, or a contraction in bank credit may lead to a collapse in trade credit.

These findings have a clear implication for trade finance policy during financial crises. Specifically, they suggest that there is sufficient rationale for supporting trade finance during a crisis. Such support may come in the form of liquidity injection, risk mitigation, addressing specific market failures, providing information, and mitigating externalities that exist in supply credit chains.

## Note

1. The Worldscope database, a Thomson Reuters product, is accessible online at [http://thomsonreuters.com/products\\_services/financial/financial\\_products/a-z/worldscope\\_fundamentals/](http://thomsonreuters.com/products_services/financial/financial_products/a-z/worldscope_fundamentals/).

## References

- Biais, Bruno, and Christian Gollier. 1997. "Trade Credit and Credit Rationing." *The Review of Financial Studies* 10 (4): 903–37.
- Boissay, Frédéric, and Reint Gropp. 2007. "Trade Credit Defaults and Liquidity Provision by Firms." Working Paper 753, European Central Bank, Frankfurt. <http://www.ecb.int/pub/pdf/scpwps/ecbwp753.pdf>.
- Brennan, Michael, Vojislav Maksimovic, and Josef Zechner. 1988. "Vendor Financing." *The Journal of Finance* 43 (5): 1127–41.
- Burkart, Mike, and Tore Ellingsen. 2004. "In-Kind Finance: A Theory of Trade Credit." *American Economic Review* 94 (3): 569–90.
- Calomiris, C., C. Himmelberg, and P. Wachtel. 1995. "Commercial Paper, Corporate Finance and the Business Cycle: A Microeconomic Perspective." *Carnegie-Rochester Conference Series on Public Policy* 42 (1): 203–50.
- Campello, Murillo, John R. Graham, and Campbell R. Harvey. 2009. "The Real Effects of Financial Constraints: Evidence from a Financial Crisis." Paper presented at the American Finance Association Annual Meeting, Atlanta, March 11. <http://ssrn.com/abstract=1357805>.
- Cuñat, Vicente. 2007. "Suppliers as Debt Collectors and Insurance Providers." *The Review of Financial Studies* 20 (2): 491–527.
- Emery, Gary, and Nandkumar Nayar. 1998. "Product Quality and Payment Policy." *Review of Quantitative Finance and Accounting* 10 (1998): 269–84.
- Fabbri, D., and L. Klapper. 2009. "Trade Credit and the Supply Chain." Unpublished manuscript, University of Amsterdam. <http://www1.fee.uva.nl/pp/bin/859fulltext.pdf>.
- Fisman, R., and I. Love. 2003. "Trade Credit, Financial Intermediary Development, and Industry Growth." *The Journal of Finance* 58 (1): 353–74.
- Frank, Murray, and Vojislav Maksimovic. 1998. "Trade Credit, Collateral, and Adverse Selection." Unpublished manuscript, University of Maryland, College Park.
- Giannetti, Mariassunta, Mike Burkart, and Tore Ellingsen. 2008. "What You Sell Is What You Lend? Explaining Trade Credit Contracts." *The Review of Financial Studies* (online). <http://rfs.oxfordjournals.org/content/early/2007/12/31/rfs.hhn096.full.pdf>.
- Gertler, M., and S. Gilchrist. 1994. "Monetary Policy, Business Cycles, and the Behavior of Small Manufacturing Firms." *The Quarterly Journal of Economics* 109 (2): 309–40.
- Lee, Yul W., and John D. Stowe. 1993. "Product Risk, Asymmetric Information, and Trade Credit." *Journal of Financial and Quantitative Analysis* 28 (2): 285–300.
- Long, Michael, Ileen Malitz, and Abraham Ravid. 1993. "Trade Credit, Quality Guarantees, and Product Marketability." *Financial Management* 22 (4): 117–27.
- Love, Inessa, Lorenzo Preve, and Virginia Sarria-Allende. 2007. "Trade Credit and Bank Credit: Evidence from the Recent Financial Crises." *Journal of Financial Economics* 83 (2): 453–69.
- Love, Inessa, and Rida Zaidi. 2010. "Trade Credit, Bank Credit and Financial Crisis." *International Review of Finance* 10 (1): 125–47. <http://onlinelibrary.wiley.com/doi/10.1111/j.1468-2443.2009.011100.x/full>.
- Meltzer, A. H. 1960. "Mercantile Credit, Monetary Policy, and Size of Firms." *The Review of Economics and Statistics* 42 (4): 429–37.
- Mian, Shehzad L., and Clifford Smith. 1992. "Accounts Receivable Management Policy: Theory and Evidence." *The Journal of Finance* 47 (1): 169–200.
- Ng, Chee K., Janet Kiholm Smith, and Richard Smith. 1999. "Evidence on the Determinants of Credit Terms Used in Interfirm Trade." *The Journal of Finance* 54 (3): 1109–29.
- Nilsen, J. H., 2002. "Trade Credit and the Bank Lending Channel." *Journal of Money, Credit, and Banking* 34 (1): 226–53.
- Petersen, M., and R. Rajan. 1997. "Trade Credit: Theories and Evidence." *The Review of Financial Studies* 10 (3): 661–91.

- Raddatz, Claudio. 2010. "Credit Chains and Sectoral Comovement: Does the Use of Trade Credit Amplify Sectoral Shocks?" *The Review of Economics and Statistics* 92 (4): 985–1003.
- Smith, Janet. 1987. "Trade Credit and Information Asymmetry." *The Journal of Finance* 42 (4): 863–872.
- Wilner, B. 2000. "The Exploitation of Relationships in Financial Distress: The Case of Trade Credit." *The Journal of Finance* 55 (1): 153–78.

