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Self-enforcing trade credit[☆]

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ABSTRACT

Trade credit plays a very important role in inter-firm transactions. Because formal contracts are often unavailable, it is granted within an ongoing relationship. We characterize the optimal self-enforcing contract, when the ability to repay is unknown to the supplier and the threat of trade suspension is used to discipline the buyer. The optimal contract resembles a debt contract: if the fixed repayment is met, the contract is renewed. Otherwise, the supplier demands the highest feasible repayment and suspends trade for some time. The length of the trade suspension is contingent on the repayment. We provide a novel explanation for why the quantity is undersupplied, even when a repayment is met.

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1. Introduction

Supplier trade credit is the delay in the payment of goods already delivered. It accounts for about 11.5 to 17 percent of the assets for non-financial firms in the G-7 countries

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(Rajan and Zingales, 1995). In developing countries, limited access to capital markets makes trade credit even more important than bank credit (Fafchamps, 2000). Trade credit has cushioned the effects of the global financial crisis on international trade (Chor and Manova, 2012). Its use is so widespread that the main focus of the literature has been on solving the *trade credit puzzle*, that is, why its use is so pervasive even in the presence of a competitive banking sector.

Trade credit is rarely secured on collateral and enforcing repayment through the courts can be problematic.[1] As a result, trade credit is usually granted within an ongoing relationship so that future profitable trade can be used to prevent default.[2] A large body of work has found evidence of the link between self-enforcing contracts and the provision of trade credit; especially (but not exclusively) in developing countries, or in international transactions, where the self-enforcing mechanism behind repeated trade can substitute for missing contract laws or differences in legal systems.[3] This link is also expected to be important when transactions are not entirely legal. For example, when firms operate in the shadow economy or in black markets, such as the drug trade.

This is the first paper that takes into account the limited enforceability of trade credit in an environment where the downstream firm's ability to repay is unobservable to the supplier. Once we consider the contract self-enforceability problem, a whole new set of important questions arises. For instance, how does it interact with the asymmetric information problem? What happens when the quality of legal enforceability or the trust between the firms improves? What are the market outcome implications? When addressing these questions, we take the provision of trade credit as given and look at the impact on the different contract characteristics, such as non-payment penalty, quantity of the good sold and repayment.[4]

We build a model where an upstream firm repeatedly supplies a good and offers trade credit to a cashless downstream firm. For instance, the upstream firm ("she") can be a manufacturer and the downstream firm ("he") a retailer. The manufacturer's machinery is used as collateral, making her less credit constrained than the retailer.[5] The manufacturer has all the bargaining power in dictating the terms of trade. She supplies the retailer with the quantity to be sold to the final consumer and establishes a repayment

[1] Legal costs may be too high relative to the size of the transaction, and outstanding trade credit is usually placed at the end of the debt priority queue in case of bankruptcy. Furthermore, the buyer may have been affected by a negative shock, leaving nothing for the supplier to foreclose on.

[2] As Cuñat and Garcia-Appendini (2012) put it: "The frequent occurrence of late payment highlights that it is hard to understand trade credit as a fully contractual, independent, one-off transaction. (...) In most cases trade credit has to be understood as a multi-period, highly non-contractual type of credit that interacts with an ongoing commercial relationship." p. 543

[3] See Bernstein (1992); 1996) for the New York diamond trade and the US grain markets, Uchida et al. (2006) for Japanese small and mid-sized enterprises and Cuñat (2007) for UK firms. McMillan and Woodruff (1999a); 1999b), Johnson et al. (2002) and Fafchamps (1997); 2000) provide evidence for firms in Vietnam, post-Communist and African countries. Antras and Foley (2011) and Macchiavello and Morjaria (2015) do accordingly in international trade.

[4] Instead, the main focus of the trade credit literature has been to explain why trade credit is granted. See Cuñat and Garcia-Appendini (2012) for a recent survey.

[5] High credit quality suppliers have a comparative advantage in securing outside finance that they can pass on small, credit-constrained buyers (Boissay and Gropp, 2007).

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