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Reverse trade credit or default risk? Explaining the use of prepayments by firms

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ABSTRACT

This paper provides a detailed empirical study on the use of advance payments by firms. It establishes that some trade credit theories can also be applied to prepayment. The results, obtained from a large panel dataset, suggest that a series of factors affect prepayments. First, financially stronger customers finance the production of their financially weaker suppliers. Second, advance payments also occur as a response to transaction risk in both domestic and international transactions. Finally, besides financial and warranty reasons, the trading partners' relative bargaining power influences payment terms as well.

1. Introduction

A vast literature provides theory and evidence on the reasons why firms use trade credit (delayed payment for the transfer of goods to downstream firms). However, the reasons why firms may pay their suppliers in advance have been the object of little scrutiny.[1] Daripa and Nilsen (2011) demonstrate that financially stronger firms may optimally decide to advance cash to their upstream suppliers when the latter would otherwise delay production. A handful of papers investigate the role of advance payments in the optimal payment system for international trade (Ahn, 2011; Schmidt-Eisenlohr, 2013). Antras and Foley (forthcoming) explain that advance payment is preferred to trade credit when contractual enforcement is weak in the importer's country. In a similar vein, Eck et al. (forthcoming) argue that advance payments serve as a signal of importer quality that helps reduce the high uncertainty inherent in international transactions.

The scarcity of studies regarding prepayment is surprising, especially since according to an IMF (2009) study, cash in advance accounts for 19–22% of international transactions.[2] The empirical importance of prepayment is also highlighted by Ahn et al. (2011), who show that the lack of trade finance (trade credit and advance payment) played an important role in the 2009 global trade collapse. The scarceness of empirical work can partly be explained by the limited information regarding advance payments available in the main datasets employed in the inter-firm finance literature, such as Compustat (covering large quoted US firms),

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[1] Throughout the paper, prepayment and advance (cash) payment are used interchangeably.

[2] According to the same study, trade credit accounts for 42–48% of international transactions and the rest are bank intermediated transactions.

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NSSBF (small US firms), and FAME (both small and large UK firms). The few existing empirical studies linking the use of prepayments to customer default risk focus mainly on the use of advance payments in international trade. Most of these studies analyse either macroeconomic data (Schmidt-Eisenlohr, 2013) or cross-sectional survey data (Eck et al., forthcoming; Raiser et al., 2008).[3] A notable exception is Antras and Foley (forthcoming), who use contract level data to analyse the relationship between the payment terms of a single US exporter of frozen and refrigerated food products and the level of contractual enforcement in the importer's country.

This paper attempts to fill the gap and broadens the analysis on prepayment. Since prepayment can be seen as a reverse trade credit, it conducts a thorough empirical analysis to investigate which of the main trade credit theories can help explain prepayment as well. Amongst the various theories, the paper focuses mainly on financial explanations and on the warranty role of advance payments. Firstly, the paper investigates whether financially constrained suppliers fund their production with the advance payments received from their financially stronger trading partners. Secondly, it investigates whether prepayments received could serve as a warranty that the customer follows the ex-ante agreed contractual terms. Finally, the paper considers whether, besides financial and warranty reasons, the trading partners' relative bargaining power influences payment terms as well. Whilst not mutually exclusive, the analysis attempts to disentangle the financing and the warranty theories from the bargaining power explanation.

The dataset used is a large panel covering around 122,000 French firms operating in several economic sectors over the period 2000–2007. Although I do not have contract level data to match suppliers and customers, I can analyse prepayments from the perspective of both the supplier and the customer. The balance sheet data include detailed annual information about customer prepayments (advance payments received from downstream firms) on the liabilities side and prepayments to suppliers (advance payments to upstream firms) on the assets side. The analysis starts from the point of view of the upstream supplier and controls for the types of goods transacted. To complete the investigation, the paper also takes the viewpoint of the customer firm. In the upstream market, the analysis distinguishes advance payments used amongst domestic firms from advance payments used in international transactions. The paper extends the analysis in Antras and Foley (forthcoming) as it does not restrict attention to international transactions only.

A number of key results emerge from the analysis. Firstly, financially weaker suppliers receive larger prepayments relative to sales and large buyers make more advance payments to their suppliers. This is consistent with a well-established finding in the trade credit literature, namely that firms benefitting from an advantage relative to other creditors help out their financially weaker trading partners.

Secondly, the results suggest that prepayments arise also as a warranty solution since suppliers receive larger prepayments from their newer customers (Antras and Foley, forthcoming) and customers with low profit margins or facing a high probability of financial default pay more in advance. This parallels the idea in Lee and Stowe (1993) that trade credit can serve as a strong form of product warranty especially for small and young suppliers. Prepayments in transactions of relationship-specific goods may also provide a transaction warranty for the supplier in case of customer hold-up risk. In this case, prepayments are the mirror reflection of trade credit serving as a commitment device for suppliers of specific goods when there is uncertainty regarding the quality of the good transacted (Dass et al., forthcoming).

Distinguishing between domestic and international transactions, in line with Eck et al. (forthcoming), the results suggest that exporters are more likely to receive advance payments than firms that trade only in the domestic market. Nevertheless, prepayments may still be used between established domestic firms. Furthermore, I uncover a positive correlation between prepayments to suppliers and advance payments received from customers. This finding is consistent with the use of inter-firm finance to ameliorate the hold-up problem in a production chain, as in Kim and Shin (2012).

Finally, the results provide evidence supporting the bargaining power view. Supplier size is positively associated with prepayments received. Manufacturers in more concentrated markets are paid more in advance. This mirrors the findings in Fabbri and Klapper (forthcoming) and Klapper et al. (2012) for trade credit contracts.

The rest of the paper is structured as follows. Section 2 presents the theoretical background and derives the hypotheses tested. Section 3 describes the sample, the summary statistics and the methodology used. Section 4 presents the empirical findings, and conclusions are drawn in Section 5.

2. Theoretical background and hypotheses

This section reviews the implications of trade credit theories and explains whether and to what extent they can be applied in the context of prepayment. The focus is on financial explanations and on warranty aspects associated with inter-firm finance, touching upon the relative bargaining power of the trading partners.

2.1. Supplier financing theory

Firms may be financed by their trading partners rather than by banks. The financial theory of trade credit posits that suppliers accept delayed payment and are willing to fund the input purchase of their customers because they benefit from a financial advantage relative to banks. The suppliers' advantage may stem from information asymmetry. Businesses may have better information about their trading partners than banks (Biais and Gollier, 1997). For instance, an informational advantage may arise if firms and their suppliers operate in related lines of business. In addition, suppliers may have an advantage in controlling buyers because they can

[3] Schmidt-Eisenlohr (2013) analyses bilateral trade flows for the years 1980–2004 for 150 countries. Eck et al. (2014) use the 2004 Business Environment and Enterprise Performance Surveys (BEEPS) for about 1,000 German firms, whilst Raiser et al. (2008) use the 2002 BEEPS survey for 6000 firms in 26 transition economies.