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# Bargaining Power and Trade Credit

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**Abstract:**  This paper investigates how the supplier's bargaining power affects trade credit supply. We use a novel firm-level database of Chinese firms with unique information on the amount, terms, and payment history of trade credit extended to customers and detailed information on product market structure and clients-supplier relationships. We document that suppliers with weak bargaining power towards their customers are more likely to extend trade credit, have a larger share of goods sold on credit, and offer a longer payment period before imposing penalties. Important customers extend the payment period beyond what has been offered by their supplier and generate overdue payments. Furthermore, weak bargaining power suppliers are less likely to offer trade credit when credit-constrained by banks. Our findings suggest that suppliers use trade credit as a competitive device in the product market.

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*"Large, creditworthy buyers force longer payment terms on less creditworthy suppliers. Large creditworthy suppliers incent less credit worthy SME buyers to pay more quickly"*

1. **Introduction**

Trade credit is an important source of funds for both small and large firms around the world (Petersen and Rajan, 1997; Demirguc-Kunt and Maksimovic, 2002). Many firms use trade credit both to finance their input purchases (accounts payable) and offer financing to their customers (accounts receivable).

A number of papers have investigated both the demand and supply side of trade credit. However, we still know very little about important features of trade credit contracts offered and about whether customers stick to these contract terms. Moreover, there is evidence that small credit constrained firms do offer trade credit (e.g., McMillan and Woodruff, 1999 and Marotta, 2005), but it is not clear why they would do that.

Anecdotal evidence (CFO Magazine, April 2007), suggests that the bargaining power between suppliers and customers is an important driver of both the trade credit terms offered by suppliers and the ones actually used by customers. Bargaining power might also explain why credit-constrained suppliers still offer trade credit: when they are forced by influential buyers to allow delayed repayments of goods.

Motivated by the scarce empirical evidence on trade credit terms and bargaining power, we collect a large and detailed firm-level survey database of Chinese firms. This is a unique source of data for at least two reasons. First, it provides unique information on trade credit contracts, including the amount, terms, and payment history of trade credit extended by firms to their customers (accounts receivable). Second, it provides detailed and rich information about the product market environment (i.e., number of competitors and main competitor's share in the domestic market), the business relation between suppliers and customers and the characteristics of the goods sold on credit.

Our empirical analysis provides a number of intriguing results. First, we document the importance of trade credit as a competitive gesture. Specifically, suppliers with weak bargaining power towards their customers – measured as either the proportion of sales to the largest customer or the number of suppliers of the firm's most important customer – are more likely to

extend trade credit, have a larger share of goods sold on credit, and offer a longer payment period before imposing penalties. Similarly, firms facing stronger competition in the product market – measured either by the degree of sales concentration in the domestic market, by the introduction of new products, or by lowered product prices in the past year - are more likely to offer trade credit and provide better credit terms. Evidence on customers' repayments practices confirms these findings and suggests that influential customers generate involuntary lending from their weaker suppliers. Specifically, important customers repay slowly their purchases and tend to extend the payment period beyond what has been offered, generating overdue payments.

Finally, we look at how firms finance the provision of trade credit. We find that unused bank credit lines increase credit supply but only for suppliers with weak bargaining power, suggesting that credit-constrained firms are less able to compete in the product market when they most need it. All these findings are consistent with the bargaining power story and hold after controlling for several firm characteristics, including size, ownership, geographical location, market destination of the products, number of customers, and industry dummies.

Our paper contributes to the literature on trade credit along several dimensions. First, our data set provides an ideal setting to effectively test three theories that have linked the buyer/seller bargaining power to trade credit decisions. Specifically, our evidence provides support to the Wilner's (2000) argument that a customer obtains more trade credit if he generates a large percentage of the supplier's profits. Our evidence is also in line with the prediction of Fisman and Raturi (2004) that trade credit is larger when the product market is more competitive. Finally, we do not find significant support for the Cuñat's (2007) hypothesis that trade credit is higher when the good sold is tailored to the buyer specific needs and suppliers and customers are in a sort of bilateral monopoly because of high switching costs. Interestingly, some of our proxies of bargaining power are a very close match to the theoretical predictions of the three models, as we observe the percentage of sales to the largest customer, the degree of sales concentration in the product market, and the percentage of goods sold tailored to the buyer's specific needs.

Our analysis also complements and extends the empirical literature. Extant evidence is based mainly on the decision to extend trade credit and its link with the degree of competition in product markets, but presents somewhat conflicting results (McMillan and Woodruff, 1999; Fisman and Raturi, 2004). We use a comprehensive set of measures on both trade credit terms

and bargaining power that allows us to obtain more compelling evidence of a negative relation between supplier bargaining power and trade credit provision.

Finally, our paper is related to the literature analyzing the role of trade credit in developing economies (McMillan and Woodruff, 1999; Fisman and Love, 2003; Johnson McMillan and Woodruff, 2002; Allen, Qian and Qian, 2005; Cull, Xu and Zhu, 2008). The general idea in this literature is that trade credit can offer a viable substitute for formal bank credit in countries with low levels of financial development. Cull, Xu and Zhu (2008) do not find support for this theory in a sample of Chinese firms.[1] Rather, they argue that the high growth rate in China is fueled by a growing private sector with increasing competitive pressure, which is likely to be an important motivation for the use of trade credit. Our results are in line with their argument.

The remainder of the paper is organized as follows. Section 2 discusses the theoretical literature and derives our testable hypotheses. Section 3 describes the data. Section 4 presents our empirical results. Section 5 discusses a series of robustness checks and additional results. Section 6 concludes.

## 2. Related literature and testable hypotheses

The traditional explanation for the existence of trade credit is that trade credit plays a nonfinancial role. That is, trade credit reduces transaction costs (Ferris, 1981), allows price discrimination between customers with different credit-worthiness (Brennan, Maksimovic, and Zechner, 1988), fosters long-term relations with customers (Summers and Wilson, 2002), and even provides a warranty for quality when customers cannot observe product characteristics (Long, Malitz and Ravid, 1993). More recently, financial theories argue that suppliers have a lending advantage over financial institutions, due to better information (Biais and Gollier, 1997), lower borrower's opportunism (Burkart and Ellingsen, 2004), or a liquidation advantage (Fabbri and Menichini, 2010). This paper focuses on those theories that link the decision to offer trade credit to the strength of the supplier/customer relation. For example, Wilner (2000) builds on a simple intuition that if a buyer depends a lot on a seller, the seller is in a better position to force immediate payment. And vice-versa, if a seller depends strongly on a buyer's purchase, the

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[1] They focus on differences in ownership structures, since in China it is not so much the lack of a formal financial system but rather its institutional bias in favor of state-owned enterprises that could give rise to trade credit among viable firms with restricted or no access to credit from state-owned banks.

buyer could delay payment more often. In particular, Wilner's (2000) model predicts higher trade credit when the customer's purchases count for a larger share of the firm's profits, i.e. when the supplier's bargaining power is low. The implications of this theory, extended to include trade credit terms, generate the following prediction:

*HP1: When customer's purchase count for a larger share of supplier's sales, the supplier is more likely to offer trade credit, the amount of goods sold on credit is higher, and the offered trade credit terms are better.*

The supplier's bargaining power might depend on the degree of competition in the product market. When the product market is very competitive because many firms supply homogenous goods, profit margins are low. Each supplier of the good is in a weak position to enforce payments and is eager to allow delayed repayments to attract new customers, or to prevent existing customers from switching to a different supplier. The opposite is true when the supplier is a monopolist. It follows that supplier's market power is negatively associated with trade credit provision. Fisman and Raturi (2004) obtain this prediction in a setting where customers have to take specific up-front investments to establish their creditworthiness for the credit to be provided. It follows that in less competitive markets, customers have less incentive to do that, because of holdup problems in the future, and thus less trade credit is provided. The implications of this theory, extended to include trade credit terms, generate the following prediction:

*HP2: When the product market is more competitive, the supplier is more likely to offer trade credit, the amount of goods sold on credit is higher, and the offered trade credit terms are better.*

Cuñat (2007) proposes another theory, which is related to the bargaining power hypothesis. His model predicts higher levels of trade credit when both buyers and suppliers are in a sort of bilateral monopoly (e.g., low competition), due to the higher switching costs on both sides. According to Cuñat (2007), intermediate goods tailored to the specific needs of the buyer make both suppliers and customers difficult to substitute. This theory has two implications for our analysis: First, it shows that product characteristics, like standardization, can affect the degree of effective competition faced by the supplier and, more generally, the bargaining power

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of the supplier vis-à-vis the customer. Second, this theory predicts *higher* trade credit when both suppliers and customers have strong bargaining power (or competition is low). The implications of Cuñat (2007), extended to trade credit terms, generate the following prediction:

*HP3: When intermediate goods are tailored to the specific needs of the buyer, the supplier is more likely to offer trade credit, the amount of goods sold on credit is higher, and the trade credit terms are better.*

By offering credit to its customers, the firm postpones its receipt of cash payments and needs to finance its own provision of credit. Firms can use bank credit, if they have access to external finance. Existing literature provides both evidence (Petersen and Rajan, 1997) and theoretical explanations (e.g., Burkart and Ellingsen, 2004; Bias and Gollier, 1997) for larger trade credit demand by credit-constrained firms. In contrast, there is no clear-cut evidence that credit constraints affect trade credit supply. For example, Giannetti, Burkart and Ellingsen (2011) find that the availability of a line of credit does not affect the amount of trade credit offered. We argue that financial constraints might have a differential effect on trade credit, depending on whether firms are in need or not to offer trade credit. If the supplier is dealing with an important customer (or faces high competition in the product market), she has a stronger need to finance the supply of trade credit. However, credit constraints not necessarily affect trade credit supply in less competitive markets. We thus test the following prediction:

*HP4: When firms with weak bargaining power are credit constrained, they are less likely to supply trade credit, allow a smaller share of goods to be paid on account, and offer worse credit terms.*

## 3. Data and Summary Statistics

We use firm-level data on about 2,500 Chinese firms, which was collected as part of the *World Bank Enterprise Surveys* conducted by the World Bank with partners in 76 developed and developing countries. The dataset includes a large, randomly selected sample of firms across 12 two-digit manufacturing and service sectors. The surveys include both quantitative and qualitative information on barriers to growth, including sources of finance, regulatory burdens, innovations, access to infrastructure services, legal difficulties, and corruption. One limitation of the database is that only limited accounting (balance sheet) data is surveyed. In addition, in

many countries (including China) the survey excludes firms with less than four years of age, in order to complete questions on firm performance and behavior relative to three-years earlier.

We use the 2003 *World Bank Enterprise Survey* for China[2], which is the only country survey to include detailed questions on trade credit contract terms offered, as well as additional questions on the product market environment - the number and importance of customers, the number of competitors and their market shares - and on the characteristics of supplier-customer relation. For the purpose of our analysis, the key questions regard the extension and terms of trade credit. Importantly, the survey asks, (i) whether firms offer trade credit to customers, (ii) the percentage of monthly sales sold on credit, (iii) whether firms offer discount to customers who pay in cash, (iv) how long firms allow customer to use trade credit, (v) on average, how fast suppliers get the actual payments, and finally, (vi) what percentage of annual sales involves overdue payments from customers. In our sample, about 90% of firms report whether or not they extend trade credit to their customers.

Table 1 shows the variable definitions and their means. We include measures of trade credit, general firm characteristics, indicators of market power of the firm relative to its customers, access to bank financing, length of the supplier-customer relation, and product characteristics of the goods sold on credit. Detailed summary statistics are shown in Table 2 for the full sample. Table 3 divides the sample in two groups, firms that offer trade credit (*AR_dum=1*) and firms that do not offer trade credit (*AR_dum=0*), and shows the mean difference and its statistical significance for all our explanatory variables, including firm's characteristics (Panel A) and our proxies of bargaining power (Panel B). Table 4 breaks down one proxy of bargaining power between firms offering and not offering trade credit, across all sectors and the main firm's characteristics. Finally, Table 5 shows correlation matrices for all variables.

### 3.1 Trade credit variables

Our main dependent variable is a dummy variable equal to one if the firm offers trade credit (accounts receivable), and zero otherwise (*AR_d*). We find that 39% of the firms in our sample offer trade credit and that the full-sample average percentage of goods sold on credit is 14% (*AR_per*), increasing to 35% for the subsample of firms that offer trade credit. On average,

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[2] For additional information on the World Bank Enterprise Survey for China, see Ayyagari, et al. (2010).

firms that extend trade credit offer customers about one month to pay, with clustering on some payment periods. For example, 37% of the suppliers offer a payment period of 30 days, 16% offer 60 days, 18% offer 90 days, and 9% offer 180 days. Since sector characteristics affect offered payment periods (Ng, Smith, and Smith, 1997), we use a dummy variable equal to one if the firm offers a payment period longer than the sector average, and zero otherwise (*AR_days*). Finally, we find that 20% of firms that offer trade credit offer a prepayment discount (*AR_discount*).

Our data set also allows us to examine the payment performance of customers (i.e., the collection of accounts receivables). First, we construct a dummy variable (*AR_daysover*) equal to one if the days actually used to repay are greater than the days offered by suppliers (customers pay late); the dummy is equal to 0 otherwise, i.e., when customers pay on time or prepay. In our sample, 28% of the firms receive late payments, 35% of firms receive early payments, and 37% receive timely payments. Next, we compute the percentage of annual sales that involve overdue payments (*AR_overdue*). We find that on average 19% of the annual sales involve overdue payments.

### 3.1.1 Sample comparisons

We perform a number of empirical tests to verify that our sample is representative of China at the national level and we compare the use of trade credit in China versus other developing and developed economies. First, Cull et al. (2008) use a large data set of over 100,000 industrial private Chinese firms and find an average percentage of sales financed by accounts receivable of 18%.[3] This compares well to the 14% in our sample of firms (*AR_per*), suggesting that our random sample of Chinese firms is indeed nationally representative.

We also find that the use of trade credit in China is comparable to other countries. For example, using the complete World Bank Enterprise Survey database of over 100 developed and developing countries, we find that the average number of firms using trade credit for working capital or investment purposes (the only comparative variable available across countries) is 45% in our China sample, and 51% for the complete set of countries. In addition, the average percentage of trade credit used for working capital purposes (averaged across firms that use trade credit) is 48% of total working capital financing in China, versus 44% for the complete sample.

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[3] Cull et al. (2008) data set is for 2003 and does not include additional contract information on accounts payables.

There are some differences on the use of trade credit in comparison to the U.S.. According to the Federal Reserve Survey of Small Business Financing (SSBF) database of U.S. firms, about 65% of firms use trade credit (account payables) to finance supplier purchases, as opposed to 45% in our sample of Chinese firms. Furthermore, the percentage of purchases financed by trade credit is 20% among U.S. SMEs that take trade credit from suppliers (versus 10% in our sample of Chinese firms) and 20% of firms that use trade credit are offered an early payment discount from their suppliers (in comparison to 7% in our sample of Chinese firms).[4] In summary, the Chinese trade credit data is representative of the country, highly comparable to the average in developed and developing countries, and not too different compared to the U.S.

### 3.2 Firm and industry characteristics

We include in all regressions some general firm characteristics that are likely to be associated with trade credit. First, the number of years since the firm was established in logarithm (*Age*). Second, the number of total employees (including contractual employees) in log (*Emp*), as a proxy for firm size. All our empirical results are robust to using alternative measures of firm size, such as dummies indicating small, medium, and large firms. Likewise, we get similar results if we replace the log of total employment with the log of total sales, although we are less comfortable using accounting data because of the large number of missing observations and unaudited firms in our sample. Third, we include the log of the number of customers the supplier is dealing with (*No_customers*), to account for any mechanical relation between the number of customers and the likelihood to offer trade credit or the amount offered. Fourth, we include a dummy variable equal to one if the percentage of the firm owned by foreign individuals, foreign investors, foreign firms, and foreign banks is greater than 50%, and equal to zero otherwise (*Foreign*). Fifth, we include a dummy variable equal to one if the percentage of the firm owned by the government (national, state, and local government, and cooperative/collective enterprises) is greater than 50% (*State*). We include these ownership dummy variables to control for possible preferential access to financing from foreign and state-owned banks, respectively. It might also be the case that foreign and state-owned firms have preferential foreign and government product markets, respectively, and are not as sensitive to

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[4] These comparisons refer to accounts payable. All the U.S. firm statistics are from Giannetti, Burkart, and Ellingsen (2011).

market competition. In our sample, 7% of firms are foreign-owned, while 23% are state-owned. All results are robust to using a 30% cutoff (instead of 50% cutoff) to identify foreign and state ownership. Sixth, we include a dummy variable equal to one if the firm sells its products abroad and equal to zero otherwise (*Export*). We include this variable to control for possible differences in trade credit use among national and foreign customers. In our sample, 9% of firms are identified as exporters.

Next, we control for the firm's liquidity, using the percentage of unused lines of credit (*LC_unused*). This variable is equal to zero if the firm does not have a line of bank credit. The average percentage of unused credit line is 7% in our sample. However, less than 30% of the firms have access to a line of credit from the banking sector and of these firms' lines of credit, 26% are unused. The low-level of financial access to the formal credit market suggests that many Chinese firms are likely to be credit-constrained.

Table 3 shows that firms that extend trade credit (with *AR_dum=1*) are significantly more likely to be mature, larger, foreign and state-owned firms, export firms and firms with a larger unused line of credit than firms that do not offer any trade credit (with *AR_dum=0*).

All regressions also include 17 city dummies and 12 industry dummies that corresponds to 2-digit NACE codes, which is the finest level of available sector classification.[5] Industry dummies are supposed to control for the role of "industry standards" in setting trade credit contract terms.[6] Additional detailed information is available on the firm's "main business" line. However, this information cannot be used in our regression analysis, as there are 1,818 different classifications and 99% of them include only one firm. Nevertheless, we study trade credit patterns of firms within a few classifications that include more than 10 firms. For instance, 33 firms are classified as "dress manufacturing", which is a subsector of the 2-digit sector "Garment and Leather Products". On average, 31% of dress manufacturing firms extend trade credit (versus 34% of the larger 2-digit sector they belong to). For the 11 firms that extend trade credit to their customers, the percentage of sales offered ranges from 10% to 100% (the median is 20%); terms offered include 3, 4, 10, 30, 40, and 90 days; and three firms (27%) offer a discount. These statistics are very similar to the overarching 2-digit sector, where the median percentage of goods sold on credit is 18% and 22% offer a discount. When we look at other narrow industry

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[5] Similarly, Giannetti, et al. (2011) use a 2-digit industry classification to identify product specificity.
[6] We exclude from our sample 157 firms that provide financial services.

classifications, we find similar patterns. This small exercise suggests that our 2-digit industry classification is appropriate to control for the role of industry standards in setting trade credit terms.

### 3.3 Measures of Bargaining Power

Our next set of explanatory variables concerns the bargaining power of the firm with respect to its customers. First, we measure the importance of the firm's largest customer using the percentage of total sales that normally goes to the firm's largest customer (*Sales_largest_cust*). On average, 25% of total sales go to the firm's largest customer. A larger share implies a more important customer and thus a weaker supplier's bargaining power.

Second, we measure the firm's bargaining power with the number of suppliers (including the firm itself) used by its largest customer (*No_supl_cust*). If the main customer uses many suppliers, it is less dependent on the firm – i.e., ending the relationship poses less of a risk of a holdup problem – and consequently this implies less market power for the firm, relative to its customer. Half of the firms in our sample deal with customers that have less than six suppliers and the average number of suppliers used by the firm's largest customer is nine. Only 10% of firms have customers dealing with more than 20 suppliers.

Third, we construct a Herfindahl Index to measure the degree of competition in the domestic market. Specifically, for the main business line we have information on the percentage of total sales in the domestic market supplied by the firm and by its main competitor and the total number of competitors in this market. This information is only available for a sub-sample of firms. Given that we do not know the market shares of all the competitors (but the main one), we assume that they are all equal.[7] This assumption implies that our continuous variable is a very noisy measure of sales' concentration in the domestic market. As a result, we use a dummy variable (*Herfindahl*) equal to one if the concentration index is larger than the median value (0.21) and zero otherwise. A higher value of the concentration index implies a less competitive product market and therefore a stronger bargaining power of suppliers relative to their customers.

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[7] The Herfindahl index is calculated as follows: Herfindahl $=(x/100)^2+(y/100)^2+ (Ncomp)*[(100-x-y)/(100*Ncomp)]^2$, where $x$ and $y$ are the firm's and the main competitor's market share, respectively. *Ncomp* is the total number of competitors but the main one.

As a measure of bargaining power, we also include a dummy variable equal to one if the firm has introduced a new product, or service, or business line, in the past year, assuming that this event would require the firm to compete with a new product (*New_product*). Moreover, we proxy for broader changes in the competitive landscape with a dummy equal to one if, relative to the average of the previous year, the firm has lowered average prices on its main business line (*Lowered_price*). We implicitly assume this was a response to greater competitive pressures in the market. In our sample, 42% of suppliers have introduced a new product or service and 48% have lowered their prices. Finally, product characteristics can affect the seller-buyer relationship and thus the relative bargaining power. Following Cuñat (2007), we measure the strength of the seller-buyer relationship with the percentage of sales made to the clients' unique specification (*Customized*). The distribution of this variable is highly skewed. Half of the firms in our sample have less than 10% of customized sales, but the average percentage of sales made to clients' unique specification is 37%.

Tables 3 and 4 provide preliminary evidence of a positive relation between weaker bargaining power and trade credit supply. Table 3, Panel B shows that firms extending trade credit (with *AR_dum=1*) have a weaker bargaining power than firms that do not offer trade credit (with *AR_d=0*), using all our proxies of market power, except the percentage of sales made to the clients' unique specification. Table 4 breaks down the information in Table 3, Panel B and reports the mean value of *Lower_price* for firms that do and do not offer trade credit, disaggregated by sectors and firm's characteristics. Table 4 strengthens our previous findings. Specifically, firms offering trade credit are more likely to operate in competitive markets than firms that do not offer trade credit in all sectors, and significantly so in nine sectors out of 12. Moreover, both young and mature firms, small and large firms, foreign and non foreign-controlled firms, state and non state-controlled firms that offer trade credit are all more likely to operate in competitive markets than firms that do not offer trade credit. We obtain very similar results if we replace *AR_dum* with the percentage of goods sold of credit (*AR_per*) below and above the median as an indicator of trade credit supply.

## 4. Results

In this section, we first investigate the relation between different aspects of trade credit and the supplier's bargaining power. We then examine how bank credit constraints interact with the supply of trade credit with different degrees of bargaining power.

### 4.1 Trade credit provision and the supplier's bargaining power

Table 6 shows the results of a set of regressions where the dependent variable is the decision to offer trade credit, which represents the traditional dependent variable used in the literature. In Table 7, we exploit the richness of our data and look at the determinants of other trade credit terms. All regressions control for general firm characteristics, for 12 industry fixed-effects, and for 17 city fixed-effects.

Table 6 shows consistent evidence that a weaker supplier's bargaining power has a positive and statistically significant effect on the supplier's decision to offer trade credit. For instance in Column 1, the larger the percentage of sales to the largest customer, the more likely firms are to extend trade credit, in line with our first testable hypothesis in Section 2. Moreover, the degree of competition faced by the supplier in the product market affects the decision to offer trade credit, in line with Fisman and Raturi (2004) and our second testable hypothesis: the larger the number of suppliers of the firm's most important customer (Column 2), or the lower the degree of sale concentration in the domestic market (Column 3), the more likely firms are to extend trade credit. In addition, firms that have lowered prices in the past year (Column 4) or introduced new products (Column 5) are more likely to extend trade credit. Finally, we include the percentage of sales made to clients' unique specification (Column 6) to test our third hypothesis. We find that selling a larger proportion of customized goods does not have a significant effect on the decision to offer trade credit.

As for the other firm characteristics, there is some evidence that younger firms are more likely to offer trade credit (Column 1). The negative relation between firm's age and trade credit supply could depend on the stronger competition that new firms face when entering the product market. Moreover, larger firms are more likely to extend trade credit (Column 1), which might be related to their longer and more established customer and supplier relationships. Our finding that larger and younger firms offer more trade credit is not necessarily counterintuitive in a developing country context, where firms often remain small over time (and fail to grow as they

age); for instance, the correlation between firm size and age in our sample is only 0.30 percent.[8] There is consistent evidence that firms with important foreign equity ownership and firms with a large number of customers have a higher probability to offer trade credit (Columns 1 to 6). In general, we find no significant relationship between the decision to offer trade credit and state ownership. Finally, there is some evidence that exporting firms have a lower probability of offering trade credit (Columns 2 and 4 to 6), which might be explained by the difficulty in collecting late payments overseas or litigating in a foreign court.

Table 7 extends the analysis to the effect of bargaining power on the other trade credit terms. The dependent variable is either the percentage of goods sold on credit (*AR_per*), or the offered payment period (*AR_days)*, or the decision to offer a prepayment discount (*AR_discount*). We also look at the customers' payment history including the difference between the number of days used versus offered to repay (*AR_daysover*), and the share of overdue payments (*AR_overdue*).[9] Specifically, Table 7 shows that our proxies of low bargaining power, namely suppliers dealing with important customers (Panel A) and facing increased competition in the product market (Panel B), are associated with a larger share of goods sold on account and longer payment periods offered before imposing penalties. We do not find evidence that the supplier's bargaining power affects the likelihood to offer a prepayment discount. This is consistent with the finding of Klapper, Laeven and Rajan (2012) that discounts for early payment are offered to riskier buyers to limit their potential non-payment risk. Table 7 also shows that important customers actually extend the payment period beyond what has been offered to them and their suppliers have a larger percentage of sales involving overdue payments. We obtain similar results (not shown) if we measure the bargaining power of the supplier with the number of total suppliers used by the main customer (*No_supl_cust*) or with a dummy indicating whether the firm has introduced a new product (*New_product*).[10]

When we look at the other firm's characteristics, Table 7 shows that larger firms have more goods sold on credit and a lower share of overdue payments (Columns 1 and 5 in Panels A and B). We do not find significant relationships between foreign ownership and credit terms.

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[8] For additional discussion, see Klapper, et al. (2006), which shows that the relationship between age and size (measured by value added) is smaller in countries with weaker business environments.
[9] Note that the dependent variables *AR_days*, *AR_discount, AR_daysover,* and *AR_overdue* are constructed using only firms that offer trade credit (i.e., *AR_d*=1).
[10] These results are not shown to save space, but are available upon request.

State-owned firms are associated with customers extending the payment period beyond what has been offered by their suppliers (Column 4 in both panels).

Overall our findings provide empirical support for our testable hypotheses 1 and 2 and are consistent with the idea that trade credit might be used as a competitive device to reduce actual competition, prevent entry, attract new customers or avoid losing the existing ones. In all these cases, trade credit can become crucial for the survival of the firm. For example, a one-standard deviation positive shock to product market competition (measured by *Sales_largest_cust*) increases the likelihood to offer trade credit (*AR_dum*) by about 0.14 percentage points, which represents 36% of the average likelihood. The same shock also increases the share of goods sold on credit (*AR_per*) by about 3%, which corresponds to about 20% of the average amount of trade credit offered. Both figures suggest that the effect of competition on trade credit supply is economically very relevant. The economic significance is even stronger when we use other measures of bargaining power like *Lower_price* or *New_product*.

## 4.2 How do suppliers in competitive market finance trade credit provision?

In our sample, 847 firms offer trade credit and 81% of them have no credit lines. Suppliers offering trade credit are more likely to have a larger unused credit line (*LC_unused*), as shown in Table 3. Overall this preliminary evidence suggests that the lack of bank financing is likely to affect trade credit decisions. However, when we control for unused bank credit lines in a regression analysis, we do not find any significant effect on trade credit supply, in line with previous evidence (i.e., Giannetti, et al., 2011).[11] This section explores further the relation among suppliers' credits constraints and the decision to offer trade credit, conditioning on the supplier's bargaining power.

More specifically, Table 8 shows the effect of the variable *LC_unused* on the likelihood to offer trade credit (*AR_d*) and on the percentage of sales financed by trade credit (*AR_per*), in sub-samples of firms with low and high bargaining power, measured with different proxies of bargaining power: top/bottom quartile of sales to the largest customer (Panel A), top /bottom quartile of the number of suppliers used by the largest customer (Panel B), firms that have

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[11] We do not report these results to save space, but they are available on request.

lowered prices with respect to the previous year (Panel C), and firms that have introduced a new product (Panel D).

Table 8 documents that bank credit constraints reduce trade credit supply of firms dealing with important customers or facing stronger competition in the product market. In contrast, having an unused credit line has no effect on trade credit decisions when suppliers have stronger bargaining power towards their customers. For example, the firms whose most important customer relies on more than 10 input providers are more likely to offer trade credit and sell a larger share of goods on account when they hold a larger proportion of unused credit lines (Columns 1 and 3 of Panel B). Similarly, the firms that reduced prices or introduced a new product are more likely to offer trade credit and sell a larger share of goods on account when they have a larger percentage of unused credit lines (Columns 1 and 3 of Panels C and D). Overall, these findings provide empirical support to our testable Hypothesis 4.

## 5. Robustness Checks

In this section, we present several robustness checks. We first investigate whether our findings can be consistent with the supplier's information advantage hypothesis and with the warrantee for product quality theory. We then show that our results still hold when we replicate our analysis for some selected industries and subsamples of firms.

### 5.1 Bargaining power versus information advantage

One could argue that the percentage of sales to the biggest customer (*Sales_largest_cust*) could also capture an advantage in information requisition by the supplier, which leads him to provide credit to his customer, as theoretically shown by Bias and Gollier (1997) or Burkart and Ellingsen (2004). If this is the case, we should find that our proxy of bargaining power is not significant anymore, once we control for the supplier having some information advantages over the buyer's project quality, or about the buyer's deception of other firms.

We measure the supplier's information advantage in three different ways. First, our survey asks the supplier whether he would be able to find out if one of his main clients deceives another firm. We use this survey question to construct a dummy variable that takes value equal to one for a positive answer and zero otherwise (*Info_adv*). Our second and third proxies are based on the idea that the supplier's information advantage is a natural by-product of its business. Suppliers

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are often in the same industry as their clients and they often visit their customers' premises. Therefore the information advantage is likely to depend on the proximity between buyers and suppliers and on the length of their relationship. Our survey provides information on the percentage of sales to customers located in five different areas: in the same district as the supplier's plant, outside the same district but within the same city, outside the same city but within the same province, outside the same province by within the same country or overseas. We measure customer's proximity by the percentage of sales going to customers located in the local market, i.e., in the same district or in the same city (*Local_market*). Finally, we use the average length of the buyer-supplier relation as a proxy of information advantage (*Age_rel_customer*).

Panel A, B and C of Table 9 show the results of these robustness tests for the decision to offer trade credit (*AR_dum*), the percentage of goods sold on credit (*AR_per*), and the offered payment period (*AR_days*). Our proxies of supplier's information advantage have a positive and statistically significant effect on the percentage of goods sold on credit (column 2 of panel A and C) and on the offered payment period (column 3), suggesting that suppliers with better information about customers are indeed more likely to offer trade credit and extend longer payment period, in line with the supplier's information advantage theory. However, these significant findings do not drive out the explanatory power of bargaining power, which has a positive and statistically significant coefficient in all the regressions. Similar results (not shown) hold for the other dependent variables, such as the payment period actually used by customers (*AR_daysover*) and the percentage of overdue payments (*AR_overdue*).

## 5.2 Bargaining power versus product quality

The finding that firms introducing new products are more likely to extend trade credit could also be interpreted as evidence of the warranty for product quality check theory, as suggested by Long, Malitz and Ravid (1993) and Klapper, Laeven, and Rajan (2012). Since a new product involves quality uncertainty, trade credit could be offered to give the buyer the possibility to check the product quality before the payment is due. Alternatively, in line with Lee and Stowe (1993), the *New_product* variable could be interpreted as a proxy for complexity, suggesting that product risk and asymmetric information on the product market that increase with complexity could explain why firms offer trade credit.

We can control for these alternative interpretations using the percentage of sales carrying a warrantee (*Warranty*) and the percentage of products that are certified (*Certified*). When products are sold with a warranty, the buyer can return the good without incurring in extra costs, if the quality of the good does not meets the expected standards. Similarly, if the product sold is certified, product risk and asymmetric information should be lower. Thus, if the *New_product* variable proxies for quality checking needs or for the degree of complexity and uncertainty, rather than for bargaining power, it should not be statistically significant once we control for the provision of the warranty and the certification. Table 10 shows that the variable *New_product* is indeed still significant with the expected sign in all the regressions, while the percentage of sales carrying a warrantee and the percentage of certified products do not seem to significantly affect the decision to offer trade credit, the proportion of goods sold on credit, or the offered payment periods.

## 5.3 Bargaining power and cross-sectional variation

Our identification strategy exploits cross-sectional variation in trade credit supply and proxies of bargaining power. Table 4 provides descriptive evidence of a positive correlation between trade credit supply and bargaining power across most of the sectors in our sample and across firm's characteristics. These preliminary findings are confirmed in our regression analysis, where we control for firm's characteristics and 12 sector dummies. To provide further evidence that trade credit terms offered are not only exclusively driven by industry standards, in Table 11, we replicate the analysis of Table 6 (*AR_dum*) and Table 7 (*AR_per*) within two of the largest sectors: *Auto & Auto Parts* and *Electronic Equipment*. All our previous results are confirmed. Weaker supplier's bargaining power (measured by *Salelargest* and *Lower_price*) is positively related to the decision to offer trade credit and to the percentage of goods sold on credit. Moreover, our results are confirmed when we restrict the sample to firms with state ownership below 50% (*State=0*), or to non-exporter firms (*Export=0*). Our results are also robust to the inclusion of a dummy variable equal to one if the firm belongs to a government sponsored industrial park, science park, or Export Promotion Zone (EPZ).[12]

Finally, although our data does not allow us to exploit the time-series variability of trade credit supply and bargaining power variables, some questions in the survey refer to past firm

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[12] Regression results are not reported here, but are available upon request.

activity and limited accounting information is available, both for the current and the previous three years. We use this limited time-series information to control for potential idiosyncratic shocks at the firm level. For example, we construct a set of dummy variables to control for whether the firm increased sales, fixed assets, or the number of total employees in the past three years. These dummies are insignificant and do not affect our main results.

## 6. Conclusion

This paper uses firm-level data on about 2,500 Chinese firms to study trade credit terms offered by suppliers and the payment history of customers. Supplier financing is often overlooked in the capital structure literature, although it is arguably the most important source of financing for small and medium sized enterprises, particularly in countries with less developed financial markets. We show that firms use trade credit as a competitive gesture. More specifically, suppliers are more likely to offer trade credit and better credit terms to powerful and important customers, who also are more likely to force payment periods longer than the ones offered and to generate overdue payments. Being credit constrained by banks prevents weaker suppliers from offering trade credit and thus reduces their ability to compete in the product market.

If competition is one of the main drivers of the decision to offer trade credit, why do firms not simply reduce the product price instead of offering a trade credit discount? A price reduction is not necessarily simpler than offering trade credit. A price reduction is observable by competitors and can trigger their immediate reaction by causing a price war that can be detrimental for the full industry. Trade credit is a less aggressive and more flexible instrument. Moreover, the two instruments – price reduction and trade credit - could also be used as complement strategies. In our analysis, we use the variable *Lower_price* as an indicator of competition and find that firms that lowered their prices relative to the previous year are more likely to offer trade credit. This finding could be interpreted indeed as evidence of complementarity.

We believe that our results shed light on trade credit behavior more broadly than the Chinese market. Unique features of the Chinese economy – such as the bias towards state-owned banks and state-owned firms – have been decreasing since 2001 (two years before our survey takes place) and we control for potential biases. Moreover, there are no country-specific

regulations on inter-firm financing. Finally, this paper focuses on the role of competition on trade credit decisions. While competition is relatively new in China, it is a widespread common feature of developed and market-based economies.

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## Table 1:  Variable Definitions and Mean Statistics

| Variable Name | Definition | Mean |
|---|---|---|
| *Measures of Trade Credit* | | |
| AR_dum | Dummy (0/1), =1 if the firm offers credit to its customers (i.e. accounts receivable), =0 if the firm does not offer trade credit | 0.39 |
| AR_per | The percent of monthly sales sold on credit | 14.02 |
| AR_days | Dummy (0/1), =1 if the firm offers a number of days larger than the sector average before imposing penalties to its customers , =0 otherwise (and = . if AR_dum is =0) | 0.50 |
| AR_discount | Dummy (0/1), =1 if the firm offers a pre-payment discount on credit to its customers, =0 otherwise (and = . if AR_dum is =0) | 0.20 |
| AR_daysover | Dummy (0/1), =1 if  the difference between the number of days actually used by the customer to repay and the one offered by the firm is positive, =0 otherwise (and = . if AR_dum is =0) | 27.9 |
| AR_overdue | Percentage of annual sales involving overdue payments from customers | 18.63 |
| *General Firm Characteristics* | | |
| Age | Log number of years (+1) since the firm was established | 2.57 |
| Emp | Log average number of total employees (including contractual employees) | 4.94 |
| Foreign | Dummy (0/1), =1 if the percentage of the firm owned by foreign individuals, foreign institutional investors, foreign firms, and foreign banks is greater than 50, =0 otherwise | 0.07 |
| State | Dummy (0/1), =1 if the percentage of the firm owned by the government (federal, state, local, and collective/cooperative enterprises) is greater than 50, =0 otherwise | 0.23 |
| Export | Dummy (0/1), =1 if the firm is exporting, =0 otherwise | 0.09 |
| No_customers | Log number of customers the firm supplies its goods | 3.41 |
| *Indicators of (Weaker) Bargaining Power of the Seller (relative to its Customers)* | | |
| Sales_largest_cust | Log percentage of total sales that normally goes to the firm's largest customer | 2.10 |
| No_sup_cust | Log number of suppliers used by the firm's largest customer | 1.68 |
| Herfindahl | Dummy (0/1), =1 if the Herfindahl Index in the domestic market for the main business  line  is greater than 0.21 (the median), =0 otherwise. | 0.50 |
| New_product | Dummy (0/1), =1  if the firm has introduced new products (or services) in the past year, =0 otherwise | 0.42 |
| Lowered_price | Dummy (0/1), =1  if on average, and relative to the average of the last year, the firm has lowered prices on its main business line, =0 otherwise | 0.48 |
| Customized | The percent of sales made to clients' unique specification (i.e. that cannot be sold to other clients) | 37.53 |

| | Other Firm Characteristics | |
|---|---|---|
| LC_unused | The percent of the firm's line of credit or overdraft facility that is currently unused (=0 if the firm does not have a line of credit or overdraft facility) | 0.07 |
| Info_adv | Dummy (0/1), =1 if the firm is able to find out when one of his main clients deceives another firm, =0 otherwise | |
| Age_customer_rel | Number of years the firm has done business with its clients in its main business line. | 4.10 |
| Local_market | Dummy (0/1), =1 if at least 50% of the supplier's products in its main business line are sold to customers located in the same district or outside the district but in the same city as the supplier's plant, =0 otherwise | 0.41 |
| Warrantee | The percentage of sales carrying a warrantee | 90.7 |
| Certified | The percent of the number of the firm's products that are certified | 46.57 |

## Table 2: Summary Statistics

We show summary statistics for all the variables used in the empirical analysis and defined in Table 1.

| Variable Name | Obs. | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| AR_dum | 2,157 | 0.39 | 0.49 | 0.00 | 1.00 |
| AR_per | 2,184 | 14.02 | 27.97 | 0.00 | 100.00 |
| AR_days | 818 | 0.36 | 0.50 | 0.00 | 1.00 |
| AR_discount | 823 | 0.20 | 0.40 | 0.00 | 1.00 |
| AR_daysover | 809 | 0.28 | 0.45 | 0.00 | 1.00 |
| AR_overdue | 813 | 18.63 | 20.47 | 0.00 | 100.00 |
| Age | 2,243 | 2.57 | 0.74 | 1.39 | 3.99 |
| Emp | 2,239 | 4.94 | 1.48 | 0.00 | 11.16 |
| Foreign | 2,242 | 0.07 | 0.26 | 0.00 | 1.00 |
| State | 2,242 | 0.23 | 0.42 | 0.00 | 1.00 |
| Export | 2,265 | 0.09 | 0.28 | 0.00 | 1.00 |
| No_customers | 1,874 | 3.41 | 1.75 | 0.00 | 14.31 |
| Sales_largest_cust | 1,814 | 2.10 | 1.74 | 0.00 | 4.60 |
| No_sup_cust | 1,580 | 1.68 | 1.02 | 0.00 | 4.59 |
| Herfindahl | 541 | 0.50 | 0.50 | 0.01 | 1.00 |
| Lower_price | 2,222 | 0.48 | 0.50 | 0.00 | 1.00 |
| New_product | 2,223 | 0.42 | 0.49 | 0.00 | 1.00 |
| Customized | 2,047 | 37.53 | 42.05 | 0.00 | 100.00 |
| LC_unused | 2,152 | 0.07 | 0.21 | 0.00 | 1.00 |
| Info_adv | 2,102 | 0.24 | 0.43 | 0.00 | 1.00 |
| Age_customer_rel | 2,201 | 4.10 | 1.27 | 1.00 | 5.00 |
| Local_market | 2,173 | 0.41 | 0.49 | 0.00 | 1.00 |
| Warrantee | 2,138 | 90.70 | 25.17 | 0.00 | 100.00 |
| Certified | 2,065 | 46.57 | 45.79 | 0.00 | 100.00 |

## Table 3: Mean Differences of Firm Characteristics by Trade Credit Supply

We show the means of firm characteristics (Panel A) and bargaining power measures (Panel B), disaggregated by firms that do and do not offer trade credit. ***, **, and * indicate significant mean differences at the 1%, 5%, and 10% level, respectively. Table 1 reports detailed variable definitions.

| Variable Name | AR_dum=0 | AR_dum=1 | Significance |
|---|---|---|---|
| **Panel A** | | | |
| Age | 2.60 | 2.51 | *** |
| Emp | 4.84 | 5.11 | *** |
| Foreign | 0.06 | 0.10 | *** |
| State | 0.24 | 0.19 | *** |
| Export | 0.09 | 0.11 | * |
| No_customers | 3.22 | 3.68 | *** |
| LC_unused | 0.06 | 0.09 | *** |
| Info_adv | 0.22 | 0.26 | ** |
| Age_customer_rel | 4.04 | 4.18 | *** |
| Local_market | 0.44 | 0.34 | *** |
| Warrantee | 89.43 | 93.46 | *** |
| Certified | 41.42 | 54.99 | *** |
| **Panel B** | | | |
| Sales_largest_cust | 2.02 | 2.29 | *** |
| No_sup_cust | 1.61 | 1.79 | * |
| Herfindahl | 0.31 | 0.24 | *** |
| Lower_price | 0.41 | 0.60 | *** |
| New_product | 0.36 | 0.51 | *** |
| Customized | 37.45 | 37.60 | |

## Table 4: Mean Differences of Bargaining Power by Trade Credit Supply Across Sectors and Firm Characteristics

We show the average degree of bargaining power (proxied by *Lower_price*) disaggregated by firms that do and do not offer trade credit, across all sectors and firm's characteristics. \*\*\*, \*\*, and \* indicate significant mean differences at the 1%, 5%, and 10% level, respectively. Table 1 reports detailed variable definitions.

| Sector and Firm Characteristics | AR_dum=0 | AR_dum=1 | Sig. |
|---|---|---|---|
| Garment and Leather | 0.39 | 0.42 | |
| Electronic Equipment | 0.50 | 0.77 | \*\*\* |
| Electronic parts making | 0.65 | 0.77 | \*\* |
| Household Electronics | 0.57 | 0.78 | \*\* |
| Auto & Auto Parts | 0.65 | 0.77 | \*\*\* |
| Information Technology | 0.25 | 0.38 | \*\* |
| Advertising & Marketing | 0.23 | 0.31 | |
| Business Services | 0.21 | 0.39 | \*\*\* |
| Food processing | 0.32 | 0.34 | |
| Chemical Products | 0.54 | 0.75 | \*\* |
| Biotech Products & Chinese Medicine | 0.15 | 0.33 | \* |
| Metallurgic Products | 0.37 | 0.57 | \*\*\* |
| Young Firms: Age below median | 0.43 | 0.61 | \*\*\* |
| Mature Firms Age above median | 0.39 | 0.56 | \*\*\* |
| Small Firms: No. of Employees below median | 0.42 | 0.60 | \*\*\* |
| Large Firms: No. of Employees below median | 0.41 | 0.59 | \*\*\* |
| Foreign-Owned | 0.40 | 0.62 | \*\*\* |
| Non Foreign-Owned | 0.42 | 0.59 | \*\*\* |
| State-Owned | 0.33 | 0.57 | \*\*\* |
| Non State-Owned | 0.44 | 0.60 | \*\*\* |

# Table 5: Correlation Matrix

We show correlation coefficients among explanatory variables (Panel A) and with dependent variables (Panel B). Table 1 reports detailed variable definitions. ***, ** and * indicate significance at the 1%, 5%, and 10% levels, respectively.

## Panel A: Explanatory Variables

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Age (1) | 1.00 | | | | | | | | | | | | | | | | | |
| Emp (2) | 0.29*** | 1.00 | | | | | | | | | | | | | | | | |
| Foreign (3) | -0.11*** | 0.09*** | 1.00 | | | | | | | | | | | | | | | |
| State (4) | 0.40*** | 0.21*** | -0.15*** | 1.00 | | | | | | | | | | | | | | |
| Export (5) | -0.08*** | 0.21*** | 0.36*** | -0.12*** | 1.00 | | | | | | | | | | | | | |
| No_customer (6) | 0.01 | 0.22*** | -0.06** | 0.03 | -0.06*** | 1.00 | | | | | | | | | | | | |
| Sales_largest_cust (7) | -0.05** | 0.03 | 0.16*** | -0.11*** | 0.15*** | -0.47*** | 1.00 | | | | | | | | | | | |
| No_sup_cust (8) | -0.01 | -0.01 | 0.11*** | 0.04 | -0.06* | 0.18*** | -0.19*** | 1.00 | | | | | | | | | | |
| Herfindahl (9) | -0.00 | -0.06 | 0.07* | 0.01 | -0.03 | -0.12** | 0.07 | -0.25*** | 1.00 | | | | | | | | | |
| New_product (10) | -0.06*** | 0.23*** | 0.03 | -0.03 | -0.06*** | 0.20*** | -0.02 | 0.02 | -0.14** | 1.00 | | | | | | | | |
| Lower_price (11) | -0.05*** | 0.06*** | 0.01 | -0.07** | 0.06*** | 0.06** | 0.10*** | -0.00 | 0.18*** | 0.22*** | 1.00 | | | | | | | |
| Customized (12) | -0.06*** | -0.05** | 0.12*** | -0.10*** | 0.15*** | -0.27*** | 0.34*** | -0.09*** | -0.00 | -0.00 | 0.07*** | 1.00 | | | | | | |
| LC_unused (13) | -0.02 | 0.20*** | 0.08*** | 0.00 | 0.10*** | 0.06** | 0.01 | -0.07*** | 0.10** | 0.16*** | 0.08*** | 0.00 | 1.00 | | | | | |
| Info_adv (14) | -0.02 | 0.01*** | 0.04* | -0.03 | 0.05** | 0.15*** | -0.04 | 0.02 | 0.03 | 0.15*** | 0.07*** | -0.03 | 0.07*** | 1.00 | | | | |
| Age_customer_rel (15) | 0.16*** | 0.20*** | 0.08*** | 0.04* | 0.10*** | -0.01 | 0.20*** | -0.05** | 0.08*** | 0.11*** | 0.09*** | 0.06*** | 0.05** | 0.10*** | 1.00 | | | |
| Local_market (16) | 0.03 | -0.22*** | -0.14*** | 0.05** | -0.24*** | -0.13*** | 0.02 | 0.01 | 0.00 | -0.17*** | -0.13*** | 0.02 | -0.1*** | -0.1*** | -0.05** | 1.00 | | |
| Warrantee (17) | -0.02 | 0.07*** | 0.06*** | -0.03 | 0.06*** | 0.03 | 0.10*** | -0.05** | -0.10** | 0.13*** | 0.01*** | 0.16*** | 0.03 | 0.07*** | 0.09*** | -0.1** | 1.00 | |
| Certified (18) | -0.01 | 0.32*** | 0.11*** | -0.04* | 0.13*** | 0.19*** | 0.06** | -0.06** | -0.07* | 0.30 | 0.25*** | 0.02 | 0.15*** | 0.16*** | 0.12*** | -0.3** | 0.19** | 1.00 |

## Panel B: Dependent Variables

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AR_dum | 0.06*** | 0.09*** | 0.08*** | -0.06*** | 0.04* | 0.13*** | 0.02 | 0.02 | -0.13*** | 0.15*** | 0.18*** | 0.00 | 0.0*** | 0.07*** | 0.05** | -0.09*** | 0.08*** | 0.15*** |
| AR_per | -0.06*** | 0.10*** | 0.09*** | -0.08*** | 0.12*** | 0.02 | 0.09*** | -0.05* | -0.09** | 0.14*** | 0.17*** | 0.03 | 0.08*** | 0.07*** | 0.08*** | -0.10*** | 0.09*** | 0.16*** |
| AR_days | -0.05 | 0.06* | -0.01 | -0.03 | -0.01 | 0.01 | 0.03 | 0.03 | 0.06 | 0.09** | 0.09*** | -0.00 | 0.04 | -0.03 | 0.01 | -0.02 | 0.03 | 0.12*** |
| AR_discount | -0.03 | -0.05 | -0.00 | -0.00 | -0.06 | 0.05 | -0.12*** | 0.02 | 0.00 | 0.01 | -0.00 | -0.10*** | 0.00 | 0.05 | -0.06 | -0.05 | 0.03 | 0.00 |
| AR_daysover | -0.05 | 0.01 | -0.02 | 0.00 | 0.03 | -0.05 | -0.05 | 0.05 | -0.09 | 0.02 | -0.01 | -0.00 | 0.02 | -0.09*** | -0.09*** | -0.02 | -0.05 | -0.03 |
| AR_overdue | -0.02 | -0.18*** | -0.10*** | -0.05 | -0.13*** | 0.01 | 0.01 | 0.07* | -0.01 | -0.07* | 0.09** | 0.01 | -0.03 | -0.03 | -0.03 | 0.05 | -0.05 | -0.01 |

## Table 6: Supplier Bargaining Power and the Decision to Offer Trade Credit

We show estimates of logit regressions. *AR_dum* is a dummy indicating the use of accounts receivable. All regressions include 12 sector dummies and 17 city dummies. Robust p-values are shown in parentheses. ***, **, * indicate significance at the 1%, 5%, and 10% level, respectively. Table 1 reports detailed variable definitions.

| | AR_dum (1) | AR_dum (2) | AR_dum (3) | AR_dum (4) | AR_dum (5) | AR_dum (6) |
|---|---|---|---|---|---|---|
| Age | -0.22 | -0.09 | -0.25 | -0.12 | -0.13 | -0.11 |
| | [0.02]*** | [0.42] | [0.11] | [0.16] | [0.12] | [0.22] |
| Emp | 0.09 | -0.3 | 0.12 | 0.06 | 0.05 | 0.04 |
| | [0.06]* | [0.64] | [0.14] | [0.13] | [0.27] | [0.39] |
| Foreign | 0.49 | 0.70 | 0.47 | 0.52 | 0.47 | 0.49 |
| | [0.06]* | [0.01]*** | [0.18] | [0.02]** | [0.03]** | [0.03]** |
| State | -0.04 | -0.05 | 0.17 | -0.01 | -0.04 | -0.03 |
| | [0.83] | [0.79] | [0.52] | [0.91] | [0.76] | [0.85] |
| Export | -0.38 | -0.44 | -0.18 | -0.41 | -0.38 | -0.37 |
| | [0.11] | [0.07]* | [0.60] | [0.04]** | [0.06]* | [0.07]* |
| No_customers | 0.16 | 0.16 | 0.14 | 0.13 | 0.13 | 0.15 |
| | [0.00]*** | [0.00]*** | [0.03]** | [0.00]*** | [0.00]*** | [0.00]*** |
| Sales_largest_cust | 0.08 | | | | | |
| | [0.06]* | | | | | |
| No_sup_cust | | 0.11 | | | | |
| | | [0.09]* | | | | |
| Herfindal | | | -0.49 | | | |
| | | | [0.02]** | | | |
| Lower_price | | | | 0.53 | | |
| | | | | [0.00]*** | | |
| New_product | | | | | 0.21 | |
| | | | | | [0.06]* | |
| Customized | | | | | | 0.00 |
| | | | | | | [0.62] |
| Constant | -2.77 | -1.88 | -14.29 | -2.85 | -2.54 | -2.51 |
| | [0.00]*** | [0.03]** | [0.00]*** | [0.00]*** | [0.03]** | [0.00]*** |
| Industry Dummies | YES | YES | YES | YES | YES | YES |
| City Dummies | YES | YES | YES | YES | YES | YES |
| Observations | 1,446 | 1,157 | 443 | 1,713 | 1,721 | 1,653 |
| Pseudo R-squared | 0.10 | 0.08 | 0.10 | 0.09 | 0.09 | 0.08 |

# Table 7: Supplier Bargaining Power and Trade Credit Terms

We show estimates of OLS regressions in columns (1) and (5) and logit regressions in columns (2) - (4). *AR_per* is the percent of monthly sales sold on credit. *AR_days* is a dummy indicating if the firm offers to its customers a number of days larger than the sector average before imposing penalties. *AR_discount* is a dummy indicating if the firm offers a pre-payment discount on credit to its customers. *AR_daysover* is a dummy equal to one when the number of days used to repay are larger than the days offered. *AR_overdue* is the percentage of annual sales that involves overdue payment. Table 1 reports further variable definitions. We use *Sales_largest_cust* (Panel A) and *Lower_price* (Panel B) as measures of supplier bargaining power. Regressions include 12 sector dummies and 17 city dummies. Robust p-values are shown in parentheses. ***, **, * indicate significance at the 1%, 5%, and 10% level, respectively.

| | Panel A: *Sales_largest_cust* | | | | | Panel B: *Lower_price* | | | | |
| | (1) | (2) | (3) | (4) | (5) | (1) | (2) | (3) | (4) | (5) |
| | AR_per | AR_days | AR_discount | AR_daysover | AR_overdue | AR_per | AR_days | AR_discount | AR_daysover | AR_overdue |
|---|---|---|---|---|---|---|---|---|---|---|
| Age | -2.42 | -0.2 | -0.02 | 0.27 | 0.46 | -1.62 | -0.15 | -0.06 | 0.26 | 0.60 |
| | [0.03]** | [0.19] | [0.92] | [0.31] | [0.74] | [0.11] | [0.26] | [0.72] | [0.24] | [0.70] |
| Emp | 1.63 | 0.12 | -0.15 | -0.15 | -1.51 | 1.30 | 0.10 | -0.12 | -0.17 | -1.39 |
| | [0.00]*** | [0.12] | [0.19] | [0.31] | [0.02]** | [0.02]** | [0.14] | [0.24] | [0.20] | [0.03]** |
| Foreign | 3.12 | -0.39 | -0.28 | 0.36 | -4.34 | 4.41 | -0.21 | -0.06 | 0.40 | -3.25 |
| | [0.41] | [0.29] | [0.62] | [0.59] | [0.09]* | [0.20] | [0.47] | [0.89] | [0.50] | [0.19] |
| State | -2.15 | -0.12 | -0.29 | 0.78 | -2.02 | -2.40 | -0.12 | -0.24 | 0.73 | -3.06 |
| | [0.23] | [0.67] | [0.40] | [0.10]* | [0.40] | [0.15] | [0.66] | [0.43] | [0.09]* | [0.16] |
| Export | 0.73 | -0.48 | -0.25 | -1.55 | -5.29 | 2.45 | -0.03 | -0.40 | -1.82 | -7.17 |
| | [0.83] | [0.25] | [0.66] | [0.08]* | [0.03] | [0.44] | [0.92] | [0.35] | [0.06]* | [0.01]** |
| No_customers | 0.39 | -0.01 | 0.06 | 0.05 | 0.59 | 0.04 | -0.07 | 0.09 | -0.10 | -0.49 |
| | [0.35] | [0.82] | [0.45] | [0.57] | [0.24] | [0.92] | [0.21] | [0.19] | [0.27] | [0.28] |
| Sales_largest_cust | 1.53 | 0.01 | -8.36e-03 | 0.32 | 1.65 | | | | | |
| | [0.00]*** | [0.07]* | [0.12] | [0.01]** | [0.01]*** | | | | | |
| Lowerprice | | | | | | 5.64 | 0.32 | 0.15 | 0.37 | 2.95 |
| | | | | | | [0.00]*** | [0.08]* | [0.53] | [0.25] | [0.10]* |
| Constant | -0.30 | -0.32 | 0.12 | -15.40 | 25.07 | 0.31 | -0.07 | 0.22 | -14.24 | 31.83 |
| | [0.95] | [0.77] | [0.92] | [0.00]*** | [0.00]*** | [0.95] | [0.95] | [0.86] | [0.00]*** | [0.01]*** |
| Industry Dummies | YES | NO | YES | YES | YES | YES | NO | YES | YES | YES |
| City Dummies | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| Observations | 1,459 | 566 | 550 | 433 | 561 | 1,733 | 691 | 674 | 535 | 687 |
| Pseudo R-squared | 0.10 | 0.06 | 0.13 | 0.17 | 0.14 | 0.10 | 0.04 | 0.12 | 0.14 | 0.14 |

### Table 8: How Do Firms With Low Bargaining Power Finance Trade Credit Provision?

We report estimates of logit regressions in Columns (1) and (2) and OLS regressions in Columns (3) and (4). *AR_dum* is a dummy indicating the use of accounts receivable. *AR_per* is the proportion of monthly sales sold on credit. Table 1 reports further variable definitions. We use *Sales_largest_cust* (Panel A), *No_sup_cust* (Panel B), *Lower_price* (Panel C), and *New_product* (Panel D), as measures of supplier bargaining power. All regressions include 12 sector dummies and 17 city dummies. Robust p-values are shown in parentheses. ***, **, * indicate significance at the 1%, 5%, and 10% level, respectively.

| | Panel A: *Sales_largest_cust* | | | | Panel B: *No_Sup_ cust* | | | |
|---|---|---|---|---|---|---|---|---|
| | Low BP | High BP | Low BP | High BP | Low BP | High BP | Low BP | High BP |
| | AR_dum | AR_dum | AR_per | AR_per | AR_dum | AR_dum | AR_per | AR_per |
| | (1) | (2) | (3) | (4) | (1) | (2) | (3) | (4) |
| L_Age | -0.14 | -0.09 | -6.61 | -0.34 | 0.09 | -0.40 | 1.15 | -4.42 |
| | [0.46] | [0.92] | [0.02]** | [0.81] | [0.65] | [0.01]*** | [0.56] | [0.05]** |
| L_emp | 0.02 | 0.12 | 2.57 | 1.39 | -0.10 | 0.05 | -0.68 | 1.11 |
| | [0.82] | [0.22] | [0.06]* | [0.11] | [0.29] | [0.55] | [0.49] | [0.39] |
| Foreign | 0.76 | -0.25 | -2.43 | -4.85 | 1.26 | 0.90 | 3.53 | 5.58 |
| | [0.05]** | [0.71] | [0.71] | [0.37] | [0.06] | [0.02]** | [0.53] | [0.38] |
| State | -0.08 | -0.17 | -1.00 | -1.68 | 0.32 | 0.09 | -0.69 | 0.26 |
| | [0.81] | [0.61] | [0.82] | [0.49] | [0.30] | [0.76] | [0.83] | [0.94] |
| Export | -0.50 | 0.06 | 0.21 | -0.47 | 0.05 | -0.32 | -3.33 | 9.62 |
| | [0.24] | [0.92] | [0.97] | [0.08]* | [0.92] | [0.38] | [0.58] | [0.11] |
| No_customers | 0.17 | 0.19 | 1.32 | 14.03 | 0.07 | 0.25 | -0.04 | 0.47 |
| | [0.04]** | [0.00]*** | [0.19] | [0.10]* | [0.37] | [0.00]*** | [0.96] | [0.60] |
| LC_unused | 0.60 | 0.12 | 17.27 | -4.37 | 2.42 | -0.52 | 20.39 | 1.58 |
| | [0.29] | [0.87] | [0.08]* | [0.28] | [0.00]*** | [0.20] | [0.02]** | [0.80] |
| Constant | -14.97 | -3.76 | 2.62 | 1.09 | -2.70 | -2.06 | -1.73 | 34.19 |
| | [0.00]*** | [0.00]*** | [0.73] | [0.90] | [0.00]*** | [0.17] | [0.77] | [0.15] |
| Industry Dummies | YES | YES | YES | YES | YES | YES | YES | YES |
| City Dummies | YES | YES | YES | YES | YES | YES | YES | YES |
| Observations | 399 | 449 | 406 | 476 | 421 | 515 | 427 | 517 |
| Pseudo R-squared | 0.12 | 0.15 | 0.14 | 0.15 | 0.12 | 0.13 | 0.13 | 0.17 |

| | Panel C: *Lower_price* | | | | Panel D: *New_product* | | | |
|---|---|---|---|---|---|---|---|---|
| | **Low BP** | **High BP** | **Low BP** | **High BP** | **Low BP** | **High BP** | **Low BP** | **High BP** |
| | AR_dum | AR_dum | AR_per | AR_per | AR_dum | AR_dum | AR_per | AR_per |
| | (1) | (2) | (3) | (4) | (1) | (2) | (3) | (4) |
| L_Age | -0.17 | -0.03 | -2.90 | -0.51 | -0.17 | -0.08 | -2.94 | -1.42 |
| | [0.19] | [0.80] | [0.10]* | [0.44] | [0.22] | [0.54] | [0.16] | [0.40] |
| L_emp | 0.02 | 0.09 | 1.20 | 1.36 | -0.01 | 0.05 | 0.07 | 1.90 |
| | [0.76] | [0.16] | [0.20] | [0.06]* | [0.84] | [0.47] | [0.95] | [0.05]* |
| Foreign | 0.67 | 0.41 | 8.96 | -0.57 | 0.31 | 0.68 | 2.90 | 2.46 |
| | [0.03]** | [0.25] | [0.09]* | [0.90] | [0.35] | [0.04]** | [0.60] | [0.61] |
| State | 0.25 | -0.30 | -0.84 | -4.44 | 0.33 | -0.16 | -1.52 | -2.41 |
| | [0.24] | [0.19] | [0.76] | [0.04]** | [0.17] | [0.54] | [0.65] | [0.40] |
| Export | -0.40 | -0.30 | 0.36 | 3.84 | -0.35 | -0.25 | -1.4 | 4.30 |
| | [0.15] | [0.40] | [0.94] | [0.44] | [0.24] | [0.41] | [0.76] | [0.38] |
| No_customers | 0.10 | 0.20 | -0.23 | 0.33 | 0.13 | 0.14 | -0.49 | 0.23 |
| | [0.04]** | [0.00]*** | [0.72] | [0.53] | [0.01]*** | [0.00]*** | [0.50] | [0.69] |
| LC_unused | 0.75 | -0.70 | 6.51 | -2.01 | 0.69 | 0.19 | 8.44 | 2.90 |
| | [0.02]** | [0.18] | [0.10]* | [0.72] | [0.05]** | [0.70] | [0.09]* | [0.69] |
| Constant | -2.02 | -3.86 | 5.43 | -3.20 | -1.87 | -3.51 | 9.74 | -1.22 |
| | [0.01]*** | [0.00]*** | [0.43] | [0.72] | [0.11] | [0.01]*** | [0.32] | [0.86] |
| Industry Dummies | YES | YES | YES | YES | YES | YES | YES | YES |
| City Dummies | YES | YES | YES | YES | YES | YES | YES | YES |
| Observations | 863 | 802 | 871 | 811 | 660 | 735 | 667 | 746 |
| Pseudo R-squared | 0.08 | 0.10 | 0.11 | 0.09 | 0.08 | 0.10 | 0.12 | 0.09 |

## Table 9: Bargaining Power versus Information Advantage

We report estimates of logit regressions in Columns (1) and (3), and of OLS regressions in Column (2). *AR_dum* is a dummy indicating the use of accounts receivable. *AR_per* is the percent of monthly sales sold on credit. *AR_days* is a dummy indicating if the firm offers to its customers a number of days larger than 30 before imposing penalties. Panel A, B, and C control for whether the supplier has information on customer's deception (*Info_adv*), for the proximity of customers (*Local_market*), and for the age of the supplier/customer relation (*Age_customer_rel*), respectively. Table 1 reports further variable definitions. All regressions include 12 sector dummies and 17 city dummies. Robust p-values are shown in parentheses, ***, **, * indicate significance at the 1%, 5%, and 10% level, respectively.

| | Panel A | | | Panel B | | | Panel C | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | AR_dum (1) | AR_per (2) | AR_days (3) | AR_dum (1) | AR_per (2) | AR_days (3) | AR_dum (1) | AR_per (2) | AR_days (3) |
| Age | -0.21 | -2.30 | -0.49 | -0.23 | -2.44 | -0.64 | -0.23 | -2.64 | -0.64 |
| | [0.03]** | [0.04]** | [0.26] | [0.02]** | [0.03]** | [0.14] | [0.02]** | [0.02]** | [0.14] |
| Emp | 0.09 | 1.63 | -0.26 | 0.09 | 1.66 | -0.21 | 0.09 | 1.56 | -0.21 |
| | [0.06]* | [0.00]*** | [0.10]* | [0.08]* | [0.00]*** | [0.20] | [0.07]* | [0.01]*** | [0.20] |
| Foreign | 0.50 | 3.62 | 0.14 | 0.50 | 3.32 | 0.11 | 0.49 | 3.01 | 0.11 |
| | [0.05]* | [0.35] | [0.09]* | [0.05]** | [0.39] | [0.17] | [0.06]* | [0.43] | [0.7] |
| State | -0.04 | -2.02 | -0.32 | -0.02 | -2.10 | -0.41 | -0.04 | -2.23 | -0.41 |
| | [0.80] | [0.27] | [0.40] | [0.92] | [0.30] | [0.26] | [0.80] | [0.21] | [0.26] |
| Export | -0.37 | 1.18 | -0.16 | -0.40 | 1.01 | -0.12 | -0.37 | 0.56 | -0.12 |
| | [0.13] | [0.75] | [0.59] | [0.11] | [0.78] | [0.70] | [0.12] | [0.87] | [0.70] |
| No_customers | 0.15 | 0.35 | -0.01 | 0.16 | 0.42 | -0.02 | 0.16 | 0.36 | -0.02 |
| | [0.00]*** | [0.42] | [0.83] | [0.00]*** | [0.33] | [0.76] | [0.00]*** | [0.40] | [0.76] |
| Sales_largest_cust | 0.08 | 1.54 | 0.001 | 0.08 | 1.55 | 0.01 | 0.07 | 1.41 | 0.01 |
| | [0.07]* | [0.00]*** | [0.10]* | [0.05]* | [0.00]*** | [0.04]** | [0.07]* | [0.00]*** | [0.04]** |
| Info_adv | 0.16 | 2.39 | 0.47 | | | | | | |
| | [0.18] | [0.10]* | [0.02]** | | | | | | |
| Local_market | | | | -0.10 | 0.45 | 0.54 | | | |
| | | | | [0.40] | [0.77] | [0.02]** | | | |
| Age_customer_rel | | | | | | | 0.04 | 0.91 | 0.54 |
| | | | | | | | [0.43] | [0.07]* | [0.02]** |
| Constant | -2.82 | -1.63 | 0.09 | -2.51 | -0.44 | 0.09 | -2.30 | -3.32 | 0.01 |
| | [0.00]*** | [0.77] | [0.94] | [0.00]*** | [0.94] | [0.943] | [0.00]*** | [0.57] | [0.94] |
| Ind. Dummies | YES | YES | NO | YES | YES | NO | YES | YES | NO |
| City Dummies | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| Observations | 1,432 | 1,443 | 517 | 1,443 | 1,456 | 520 | 1,439 | 1,452 | 520 |
| Pseudo R-sq. | 0.10 | 0.11 | 0.08 | 0.10 | 0.10 | 0.07 | 0.10 | 0.11 | 0.07 |

## Table 10: Bargaining Power versus Product Quality

We report estimates of logit regressions in columns (1) and (3) and of OLS regressions in column (2). *AR_dum* is a dummy indicating the use of accounts receivable. *AR_per* is the percent of monthly sales sold on credit. *AR_days* is a dummy indicating if the firm offers to its customers a number of days larger than 30 before imposing penalties. Panels A and B control for the percentage of goods carrying a warrantee (*Warrantee)* and for the proportion of firm's products that are certified (*Certified*), respectively. Table 1 reports further variable definitions. All regressions include 12 sector dummies and 17 city dummies. Robust p-values are shown in parentheses, ***, **, * indicate significance at the 1%, 5%, and 10% level, respectively.

| | Panel A | | | Panel B | | |
|---|---|---|---|---|---|---|
| | AR_dum (1) | AR_per (2) | AR_days (3) | AR_dum (1) | AR_per (2) | AR_days (3) |
| Age | -0.11 | -2.14 | 0.07 | -0.09 | -1.99 | 0.08 |
| | [0.16] | [0.06]* | [0.86] | [0.30] | [0.11] | [0.85] |
| Emp | 0.04 | 1.31 | -0.11 | 0.04 | 1.04 | -0.09 |
| | [0.36] | [0.04]** | [0.47] | [0.33] | [0.14] | [0.60] |
| Foreign | 0.48 | 4.13 | 0.09 | 0.50 | 7.93 | 0.02 |
| | [0.02]** | [0.32] | [0.22] | [0.03]** | [0.11] | [0.77] |
| State | -0.03 | -3.30 | -0.14 | 0.01 | -2.93 | 0.12 |
| | [0.79] | [0.08]* | [0.65] | [0.94] | [0.15] | [0.73] |
| Export | -0.37 | 6.33 | -0.08 | -0.36 | 4.37 | -0.01 |
| | [0.06]* | [0.14] | [0.78] | [0.07]* | [0.38] | [0.97] |
| No_customers | 0.13 | -0.34 | -0.05 | 0.13 | -0.28 | -0.09 |
| | [0.00]*** | [0.44] | [0.39] | [0.00]*** | [0.58] | [0.13] |
| New_product | 0.21 | 2.67 | 0.21 | 0.20 | 3.38 | 0.41 |
| | [0.06]* | [0.10]* | [0.07]* | [0.09]* | [0.07]* | [0.06]* |
| Warrantee | 0.001 | 0.02 | -0.00 | | | |
| | [0.66] | [0.59] | [0.42] | | | |
| Certified | | | | 0.4e-03 | 0.01 | 0.05** |
| | | | | [0.76] | [0.68] | [0.05] |
| Constant | -2.57 | 3.59 | 0.52 | -2.72 | 1.96 | 0.20 |
| | [0.00]*** | [0.57] | [0.54] | [0.00]*** | [0.73] | [0.81] |
| Ind.Dummies | YES | YES | NO | YES | YES | NO |
| City Dummies | YES | YES | YES | YES | YES | YES |
| Observations | 1,701 | 1,446 | 589 | 1,610 | 1,214 | 488 |
| Pseudo R-sq. | 0.08 | 0.11 | 0.06 | 0.08 | 0.11 | 0.06 |

## Table 11: Bargaining Power and Trade Credit for Selected Sectors

We report estimates of logit regressions in column (1) and (3) and of OLS regressions in column (2). AR_dum is a dummy indicating the use of accounts receivable. AR_per is the percent of monthly sales sold on credit. Panels A and B show the results for two large sectors, Auto and Auto Parts and Electronic Equipment, respectively. We use two different proxies of bargaining power, *Sales_largest_cust* in Columns (1) and (2) and *Lower_price* in Columns (3) and (4). Table 1 reports further variable definitions. All regressions include 17 city dummies. Robust p-values are shown in parentheses. ***, **, * indicate significance at the 1%, 5%, and 10% level, respectively.

| | Panel A: Auto & Auto Parts | | | | Panel B: Electronics Equipment | | | |
|---|---|---|---|---|---|---|---|---|
| | AR_dum (1) | AR_per (2) | AR_dum (3) | AR_per (4) | AR_dum (1) | AR_per (2) | AR_dum (3) | AR_per (4) |
| Age | -0.17 | -4.82 | -0.15 | -3.33 | 0.05 | -2.59 | -0.43 | -3.69 |
| | [0.41] | [0.11] | [0.45] | [0.24] | [0.89] | [0.63] | [0.07]* | [0.27] |
| Emp | 0.23 | 2.50 | 0.15 | 2.39 | -0.09 | 0.61 | 0.07 | 1.41 |
| | [0.04]** | [0.10] | [0.13] | [0.10]* | [0.66] | [0.81] | [0.65] | [0.49] |
| Foreign | 0.27 | 3.99 | 0.68 | 10.06 | -0.05 | 1.60 | -0.17 | 3.61 |
| | [0.57] | [0.70] | [0.16] | [0.29] | [0.94] | [0.86] | [0.77] | [0.70] |
| State | 0.55 | 0.78 | 0.46 | -0.82 | 0.15 | -1.95 | 0.05 | -2.73 |
| | [0.16] | [0.88] | [0.20] | [0.86] | [0.85] | [0.85] | [0.91] | [0.61] |
| Export | 0.10 | 16.85 | -0.08 | 15.04 | 0.66 | -3.44 | -0.69 | 1.90 |
| | [0.88] | [0.18] | [0.90] | [0.17] | [0.40] | [0.69] | [0.19] | [0.82] |
| No_customer | 0.22 | 0.69 | 0.14 | -0.59 | 0.18 | 0.88 | 0.18 | -1.85 |
| | [0.02]** | [0.62] | [0.09]* | [0.63] | [0.29] | [0.64] | [0.09]* | [0.21] |
| Sales_largest_cust | 0.37 | 4.48 | | | 0.01 | 4.91 | | |
| | [0.00] *** | [0.00]*** | | | [0.23] | [0.01]*** | | |
| Lower_price | | | 0.72 | 6.17 | | | 1.02 | 10.38 |
| | | | [0.01]** | [0.10]* | | | [0.00]*** | [0.03]** |
| Constant | -2.14 | 0.81 | -0.99 | 20.89 | 0.58 | -18.44 | 0.97 | 28.14 |
| | [0.00]*** | [0.93] | [0.16] | [0.23] | [0.69] | [0.34] | [0.29] | [0.14] |
| City Dummy | YES | YES | YES | YES | YES | YES | YES | YES |
| Observations | 273 | 286 | 319 | 323 | 123 | 125 | 151 | 155 |
| Pseudo R_sq. | 0.12 | 0.12 | 0.11 | 0.10 | 0.15 | 0.18 | 0.14 | 0.14 |