WORKING PAPER

Is accounts-receivable industry-specific or firm-specific?

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Abstract

This paper empirically examines whether the generally accepted finding that the firm's accounts receivable tends to be industry-specific is valid for private mature Belgian firms between 2001 and 2008. The average accounts receivable of the firm's industry in 2001 is not an important determinant in explaining the future accounts receivable of mature private Belgian firms. On the contrary we find that the accounts receivable of the firm in year 2001 is the most important variable in explaining the future accounts receivable of mature private Belgian firms. These results imply that the firm's accounts receivable is only firm-specific. We also provide evidence on the importance of the variables used in many previous studies on accounts receivable in capturing the variability in the firm's accounts receivable. The importance of the traditional variables in capturing the variability in accounts receivable is negligible. Our findings are robust for other European countries such as Sweden, The United Kingdom, France, Italy and Portugal. A tentative explanation for these findings is provided.

JEL classification: G300, G310
Key words: trade credit receivable, firm heterogeneity

A FUNDAMENTAL QUESTION IN CORPORATE FINANCE IS: why firm's accounts receivable tends to be industry specific and stable over time? Decades of research has provided some interesting insights and answers why firm's industry can play an important role in the firm's decision whether to extend financing to their customers. Three large theories emerge from previous research: the comparative advantage in liquidation of the customer theory, the product quality theory, and the price discrimination theory.

While there exists several theories concerning the importance of the firm's industry in determining the firm's future accounts receivable, quantitative or empirical studies are very rare. Traditional accounting data sources provide very little readily available information on the firm's credit terms. Consequently a handful scholars have tried to highlight the importance of trade credit terms in the firm's industry by collecting data of the firm's trade credit terms by largely using survey methodology (see Ng, Smith, and Smith (1999); Banerjee, Dasgupta, and Kim (2004); etc.). Their evidence shows that accounts receivable for listed American firms is only industry-specific.

We are, of course, not the first to point to the influence of the firm's industry in determining the firm's future accounts receivable, though the focus of this paper is quite different from previous work. The goal of this paper is to provide quantitative evidence whether accounts receivable tends to be either industry or firm-specific.

This paper assumes that firms are very conservative in changing their credit terms over time. One important implication emerges from this assumption. The initial accounts receivable of the firm (i.e., the firm's accounts receivable in year 2001) should be the most important variable in explaining the heterogeneity in accounts receivable. On the contrary, Ng, Smith, and Smith (1999) questionnaire results show that a majority of firms often tend to apply the industry's trade

credit terms. For example if the accounts receivable practice in the manufacturing industry is full payment within 30 days, then the lion's share of suppliers in this industry tend to give their customers a net term of 30 days. In this case the firm's accounts receivable is industry-specific. The initial accounts receivable of the firm's industry (i.e., the average accounts receivable of the firm's industry in year 2001) should be then the most important variable in capturing the variability in accounts receivable.

The focus of this analysis is on mature private non-financial firms in Belgium. Previous literature suggests that a discrepancy between young firms and more mature firms tends to exists in the use of trade credit. Newly created firms have no well established relationships with their suppliers. Consequently their suppliers tend to extend more financing to their newly customers by which they can use to inspect the quality of the delivered goods. Young firms face high failure rates in the early years of their life. As a result banks are reluctant to provide more short-term financing to young firms, thus, suppliers tend to provide more financing for young firms (see Wilner (2000); Huyghebaert (2001); and Huyghebaert (2007)). Mature firms are well established and moreover it allows us to examine whether mature firms attach more importance to their own initial accounts receivable or the initial average accounts receivable of their industry.

Let me be careful about what we find, and about what we have little to say. The findings suggest that the initial accounts receivable of a firm is an important determinant explaining the firm's future accounts receivable. Surprisingly the initial accounts receivable of the firm's industry is not an important determinant of the firm's future accounts receivable even when we include the latter determinants in one single model. Our results are also robust for financially distressed firms. The results imply that firm's accounts receivable is firm-specific.

A large part of the variation of the future accounts receivable tends to be captured by the initial accounts receivable of the firm. The initial firm's accounts receivable variable is basically time-invariant. Previous studies do not shed light on the possible influence of time-invariant factors on accounts receivable. We find that traditional variables capture very little of the accounts receivable variation or heterogeneity.

Next we check if our key findings are robust for other European Countries such as Sweden, Finland, The United Kingdom, France, Portugal, Italy, Greece, and the Czech Republic. For example firms tend to attach more importance to their initial accounts receivable than the initial average accounts receivable of the firm's industry in determining their future optimal trade credit terms irrespective to the country in which the firm is located.

We also examine how much of the variation in the accounts receivable variable is captured by the traditional variables for each of these countries separately. For example the initial firm's accounts receivable captures less than 50.00 % of the variation in accounts receivable for firms in countries such as Finland, The Czech Republic or Greece. This finding indicates that accounts receivable is neither firm-specific or industry-specific in the latter countries.

Lastly, we turn to the question: "What explains the inertia in firm's accounts receivable?".

Our research contributes to the trade credit literature in several important ways. This paper is the first that validate the notion that firm's accounts receivable tend to be industry specific for private non-financial European firms. Second we show that firm's accounts receivable do not tend to be industry-specific in Belgium. Mature firms do not tend to attach much importance to the average accounts receivable of firm's industry in 2001 even after controlling for industry effects. The variable initial average accounts receivable of the firm's industry is not the single most important variable in explaining the firm's future accounts receivable. Third we quantify

the importance of the variables suggested by Petersen and Rajan (1997) and frequently used in many previous accounts receivable studies. Traditional variables do not capture much of the variation in the accounts receivable when we include the firm's initial accounts receivable. Finally we provide insights why this inertia in firm's accounts receivable exists. We find that the accounts receivable of the firm in 2001 has a strong increasing effect on accounts receivable when the firm has more access to short-term financing. It seems that firms do not change their trade credit terms in case they have more access to short-term financing. Similar trends are observed for firms in Finland, Sweden, France or in Greece.

The remainder of this paper is organized as follows. In Section 1, we retrieve the basic theories that explain why firms tend to extend trade credit to their customers with a particular focus on the importance of the firm's industry. Section 2 discusses the data and sample selection. Section 3 examines whether trade credit receivable is firm-specific or industry-specific. Section 4 investigates how much of the variation in accounts receivable is captured by traditional variables. We examine if our findings are robust for firms in other European countries such as Sweden, Finland, The United Kingdom, France, Portugal, Greece, Italy and the Czech Republic in Section 5. We explain the inertia in accounts receivable in Section 6. We conclude in Section 7.

1.   Review of Related Theory

Since this paper will address the importance of the notion that firm's receivable tends to be industry-specific, we will begin by retrieving the basic theories that explain why firms tend to extend trade credit to their customers with a particular focus on the importance of the accounts receivable in the firm's industry. In essence three theories exist that explains why firms offer

financing to their customers: comparative advantage in liquidation of the customer theory, product quality theory, and the price discrimination theory.

The first theory argues that suppliers tend to extend trade credit to their customers in circumstances where there is an easier resale of the product being sold, since this will allow the supplier to seize and resell their products in case their customer defaults (Fisman and Love (2003)). The possibility for product resale is largely determined by the firm and industry characteristics.[3] For example suppliers of office chairs are able to switch customers much easier in case one of their customers default compared to the retailing market. One way a supplier can prevent a possible default of his customer is to collect all the available information of the credit worthiness of their customer. This is especially the case when the firm is financially distressed. Financially distressed debtors with high degree of market power will press their suppliers to provide free trade credit. This is especially the case in the retailing and manufacturing industry. Preve (2004) shows that suppliers tend to extend trade credit to their financially distressed customers in order to retain their market share. Furthermore suppliers may want to build strong long-term relationships with distressed customers. Leyman, Schoors and Coussement (2008) show that suppliers are willing to provide additional credit in order to increase the probability that the distressed firm will survive (for example the automotive industry). On the contrary principal customers may mitigate the financial distress costs of their suppliers by paying more promptly in order to protect their long-term relationship with their suppliers (Banerjee, Dasgupta, and Kim (2004)).

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[3] Several organizational and financial structures exist to manage the firm's accounts receivable. In essence eight different accounts receivable policies exist: general corporate credit, accounts receivable secured debt, captive finance subsidiary, use of a credit information firm, use of a credit collection agency, use of a credit insurance company, non-recourse factoring, and recourse factoring. Many firms actively manage their accounts receivable to minimize their default risk. Whether a firm uses factoring, credit insurance, secured financing to manage its accounts receivable will have a very important effect on the level of financing provided to the customer by their suppliers. For example credit insurance removes the risk of default by removing the accounts receivable from the firm's ledger. However, we have no data that can shed light on which accounts receivable policy is applied by the suppliers. See Mian and Smith (1992) for a review of the different accounts receivable management policies.

We distinguish between secured and unsecured trade credit. In case of unsecured trade credit, the supplier will probably lose all his proceeds from sales in case the suppliers are not able to switch customer easier. On the contrary the suppliers can recover a large part of his sales proceeds by acquiring the collateral pledged by the debtor in case of secured trade credit. Next we can also classify customer as risk neutral or more risky customers. Meyers (1977) shows that banks often are reluctant to rewrite the debt contract to insure that the firm will follow an optimal installment plan. The cost of writing and enforcing would be large, and as a result the banks will charge a higher interest rate. This is especially the case for riskier customers. Subsequently riskier customers tend to have a preference for trade credit above bank loans because trade credit is much cheaper.

As mentioned suppliers are willing to provide additional financing to the riskier debtors because they may have a long-term interest in the survival of the debtor's firm. This is particularly true if the supplier has no potential substitutes for this customer (Petersen and Rajan (1997)). If trade credit is more expensive than short-term bank loans, then suppliers tend to follow a less severe liquidation policy when firms are financially distressed (Huyghebaert, Van De Gucht, and Van Hulle (2007)). As a consequence, suppliers are more reluctant to renegotiate the outstanding amount of financing to their customers. Moreover they would even provide additional financing to their customers. On the contrary banks would rather liquidate the company then renegotiating the existing credit terms with their customers.

The ability of the supplier to seize and resell their products in case their customer defaults also depends on the country customer payment risk, the pursuit of trade credit terms by the firm's customers, the legal and the financial system of a country. For example a low customer payment risk is found in the Northern European Region (Sweden, Finland, Norway and

Denmark). The medium customer payment risk is found in the Benelux countries (Belgium, The Netherlands and France) and the highest risk is found European Mediterranean Region (Portugal, Greece, Cyprus, Spain and Italy) (European Payment Index 2011, Intrum Justitia).[4] Larger credit terms are offered in the European Mediterranean Region in comparison with the Northern European Region (Garcia-Turel and Martinez-Solana (2010)). We would expect that suppliers in countries with low customer payment risk will fall back on the receivable practice in their industry. On the contrary suppliers in high customer risk countries such as Greece will fall back on their own receivable. This would allow the supplier to minimize the potential payment losses. Suppliers do bear in mind that additional sales are needed to cover those payment losses. As mentioned the state of the country's legal institutions plays a crucial role in the suppliers decision to whether extent trade credit to their customers. For example customers tend to use more trade credit relative to bank credit when the creditor protection is weak and the country's legal institutions are worse (see Brennan, Mikisimovic, and Zechner (1988); and Burkart and Ellingsen (2004)). The existence of either a bank-oriented (for example: Continental European countries and China) or a market-oriented financial system (for example: United States of America, the United Kingdom, and Canada) influences the customer's use of trade credit (Schmidt and Tyrell (1997)). Demirguc-Kunt and Maksimovic (2001) find that both the country's banking system and the country's legal system can predict how much trade credit will be extended to the customers by their suppliers. Their evidence suggests that customer's use of bank debt relative to trade credit is lower in countries with inefficient legal system (for example: Pakistan, Brazil, Peru, Argentina, and Mexico).

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[4] Intrum Justitia Group generates yearly the European Payment Index. The data is generated yearly using a standard written panel survey. The data consist of contractual payment terms (in days), effective payment duration (in days), age structure of receivable, payment loss, estimate of risk rends, characteristics of the consequences of late payment; and causes of late payment (Intrum Justitia (2011)).

The product quality theory describes why suppliers tend to offer more financing to their customer in certain industries. Some customers in industries such as high-tech industries are not willing to pay cash on delivery because they need time to assess the quality of the delivered products. As a result the supplier will extend trade credit to their customer in order to assess the quality of the products (see Fisman and Love (2003) and Long, Malitz, and Ravid (1993)).

The final theory posits that trade credit is used by suppliers to distinguish between poor or high credit quality customers. Initially suppliers would like to use different selling prices in order to identify the low or high credit quality customers, however this practice is often prohibit by law. For example some practices of price discrimination are not allowed in the European Union according Article 82 of the Common Market Treaty.[5] The use of trade credit by the supplier to group customers in poor or high credit quality customers depends to a great extent of the charged interest rate on short-term bank loans. High credit quality customers are able to borrow cheaply because they have a lower default risk. As a result they prefer short-term financing by financial institutions. On the contrary low credit quality customers are not able to borrow cheaply. As a result they will prefer to receive financing from their customers. Suppliers will sell more of their goods to their customers in case they have higher profit margins or they can borrow cheaply (see Petersen and Rajan (1997) and Banerjee, Dasgupta, and Kim (2004)). Petersen and Rajan (1997) show that sellers make occasional strategic use of trade credit to price discriminate among their buyers, credit terms tend to be industry-specific.

In general the firm's industry plays a crucial role in determining the firm's future receivable. Ng, Smith, and Smith (1999) find wide variation across industries for American listed firms in

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[5] In general, several conditions has to be met before price discrimination can occur in the European Union: (1) a firms must have some market power; (2) the firm must have the ability to sort consumers depending on their willingness to pay for each unit; and finally the firm must be able to present or limit the resale of the goods or services in question by consumers paying the lower price to those who pay the higher selling price. See Geradin and Petit (2007) for an in-depth discussion of the price discrimination practice under the EC Competition Law.

credit terms, but little variation within industries. Their findings implicitly indicate that the initial use of receivable of the firm's industry should be an important element in determining the future firm's receivable. Furthermore suppliers in high customer payment risk countries will tend to rely more on their own initial receivable rather than the initial receivable of their industry to minimize the risk of payment loss. If Ng, Smith, and Smith (1999) findings are valid, then we would expect that the firm's receivable is industry specific. As a consequence the initial average receivable of the firm's industry is the single most important variable in capturing the heterogeneity in accounts receivable. On the contrary if accounts receivable is not industry specific, then we examine if accounts receivable is firm specific and stable over time. The purpose of this paper is to provide quantitative evidence whether firm's accounts receivable is industry or firm-specific.

2.   Data and Sample selection

The primary sample consists of all unlisted non-financial Belgian firms over the period 2001-2008. The sample consists of private companies limited by shares and private companies with limited liability. We exclude the following industries based on the NACE 2008 codes from my sample: financial and insurance activities; scientific research and development activities; employment activities; security and investigation activities; public administration and defense, and compulsory social security activities; education; human health and social work activities; gambling and betting activities; activities of membership organizations; other personal service activities; activities of households as employers, undifferentiated goods and services, producing activities of households for own use. We deal with potential survivorship bias as fellow. Only active firms are included in the sample. We exclude all firms who are liquidated, merged or

acquired by other firms, firms in a legal reorganization procedure, and firms in a bankruptcy procedure.

We examine the effect of both the initial receivable of firms and the receivable of the firm's industry on the future firm's receivable. Newly created firms have no well established relationships with their suppliers. Consequently their suppliers tend to extend more financing to their newly customers by which they can use to inspect the quality of the delivered goods. Young firms face high failure rates in the early years of their life. As a result banks are reluctant to provide more short-term financing to young firms, thus, suppliers tend to provide more financing for young firms (see Wilner (2000); Huyghebaert (2001); and Huyghebaert (2007)). Mature firms are well established and moreover it allows us to examine whether mature firms attach more importance to their own initial accounts receivable or the initial average accounts receivable of their industry. Consequently the sample should largely consist of well established firms.

As a result only firms with a foundation date before December 31, 1991 are included in the sample. This approach allows us to examine if the initial receivables of a firm or the firm's industry receivable in 2001 is an important determinant in explaining the firm's future receivable for firms that have survived more than 10 years.

Private companies limited by shares and private companies with limited liabilities are legally required to deposit their annual account at the Belgian National Bank at the end of their fiscal year. The annual accounts of each firm are commercialized by Bureau van Dyck. We distract financial date from the BEL-FIRST database of Bureau van Dyck. The Belgian accounting principles are comparable to those of the Anglo-Saxon countries (Huyghebaert (2006)). We require that the firm's fiscal year should begin at January, 1 and it ends at December, 31 for

every year in the sample. Full unconsolidated annual accounts should be available for each firm and for every fiscal year in my sample. One advantage of this type of annual account is that it provides more detailed financial information of the firm. Previous studies have used the ratio short-term receivable to sales as a dependent variable (see Petersen and Rajan (1997); Kohler, Britton, and Yates (2000); Atanasova (2003), Delannay and Weil (2004); Love, Preve, and Sarria-Allenda (2005); and Garcia-Tureel, P.J. and Martinez-Solano (2010)). We define the dependent variable as the ratio of the sum of short-term and long-term accounts receivable to sales. This allows us to provide a more detailed view on the firm's receivable over time. As a result my unbalanced panel set contains 8,296 firms.

As mentioned the dependent variable for our basis specification model is the ratio of the sum of short-term and long-term accounts receivable to sales. To ensure the robustness of our results, we examine the distribution of our determinants and remove extreme values. The data is trimmed at the upper and lower five-percentiles to mitigate the effect of outliers.

To check the robustness of our main results we separately compose a new sample of private non-financial firms for eight different European countries (i.e., Sweden, Finland, Portugal, Greece, The United Kingdom, France, Italy and Czech Republic) to examine their accounts receivable for a period 2001 to 2008. The selection procedure slightly differs from the procedure used to select Belgian firms for my basic estimations on two points. First, we want to test if my results are robust for both newly and more mature firms. As a result we select firms with a creation date before December, 31 2000. Lastly we distill financial information from the AMADEUS database of Bureau Van Dyck. One important caveat of using this database is that this database offer less detailed information compared to the BELFIRST database. Consequently the dependent variable is defined as the ratio of accounts receivable to sales. Moreover to ensure

the robustness of our results, we examine the distribution of our determinants and remove extreme values. The data is again trimmed at the upper and lower five-percentile to mitigate the effect of outliers. We remove all values that imply accounts receivable of greater than 1 (Love, Preve, Saria-Allende (2007)). The construction of all the variables used in this paper is detailed in Appendix 2.

Table 1 presents summary statistics for all Belgium firms. The sample of all our firms shows that the level of accounts receivables takes a mean value presenting 23.21 % of their sales. Average annual sales growth has been 11.81 %.

[Insert Table 1 about here]

At this point, we merely want to note that these summary statistics for all of our firms in Table 1 are broadly consistent with those found in previous studies on accounts receivable.

3.   Is accounts receivable firm-specific?

An important implication of Ng, Smith, and Smith (1999) study is that American listed firms tend to be very conservative in changing their own trade credit terms respective to their own industry. Furthermore accounts receivable is largely sectorial driven. If this is the case, then firms tend to rely more on the average accounts receivable of the firm's industry in year t_0 (i.e., year 2001) in determining their own trade credit terms. Thus accounts receivable is industry-specific. Otherwise each firm individually determines their own trade credit terms irrespective of their own industry, and thus firm's receivable is firm-specific. We estimate the following regression with dependent variable accounts receivable to sales:

$Accounts\_Receivable_{it} = \alpha + \beta X_{it} + \gamma Accounts\_Receivable_{i0} + \gamma Mean\_Industry\_Accounts\_Receivable_{i0}$

$+ \nu_t + \varepsilon_{it} (1)$

where i indexes firms, t indexes years, X is a set of control variables. The control variables evaluate the importance of firm's initial customer credit conditions relative to those of near period determinants. We incorporate a set of traditional determinants suggested by Petersen and Rajan (1997). These determinants are used in many other studies on accounts receivable (see Choi & Kim (2003); Banerjee & Kim (2004); Blasio (2005); etc.). $Accounts\_Receivable_{i0}$ is firm i's initial of accounts receivable, which we proxy for with the first nonmissing value for accounts receivable. $Mean\_industry\_Accounts\_Receivable_{i0}$ is firm's industry average accounts receivables, v is a year fixed effect; and ε is the random error term assumed to be possibly heteroskedastic. The coefficient of interest is γ. The coefficient γ measures the importance of firm's initial accounts receivable (or the firm's industry average accounts receivable) in determining future values of accounts receivable. Furthermore, this coefficient estimates the average account receivable differences across firms over time. We drop the first observation for each firm from the regression in order to avoid an identity of the initial firm's receivable at time zero (Lemmon, Roberts and Zender (2008)). The results from estimating equation (1) are presented in Table 2. Table 2 presents the results using the full sample of firms. Each coefficient is scaled with the corresponding variable's standard deviation, thus, each reported variable estimate in Table 2 relate to one-standard deviation change in X (Lemmon, Roberts, and Zender (2008)).

The key finding of Table 2 is that the initial receivable of a firm is a very important determinant in explaining the firm's future receivable for the sample of all firms. Surprisingly the initial average receivable of the firm's industry is not an important determinant in explaining the firm's future receivable. Thus, accounts receivable tends to be firm-specific.

The first model specification in Table 2 shows the results for a model consisting of only one variable (i.e., INITIAL_ACCOUNTS_RECEIVABLE). One-standard deviation change in the firm's initial receivable corresponds to an average change of 47.41 % in the firm's future receivable in the first model specification. The firm's initial accounts receivable (i.e., INITIAL_ACCOUNTS_RECEIVABLE) remains highly significant in model specifications (2) and (4), even when the traditional variables and the minimum, average and maximum receivable of the firm's industry are included.

The two most important traditional variables in explaining the firm's future receivable are LNTOTALASSETS and GROSSMARGINS (see Table 2, column 2). LNTOTALASSETS is a proxy for the credit worthiness of a firm. Larger and more mature firms tend to extend more credit to their customers even they have higher cash flows (CASHFLOW) and have fewer growth opportunities (GROSSMARGIN).

We use CASHFLOW as a proxy for the firm's capacity to generate internal cash. The results imply a positive association between CASHFLOW and the dependent variable. It seems that firms with more internal cash tend to offer more credit to their customers. On the contrary profitable firms tend to extend less credit to their customers. The coefficient of GROSSMARGIN variable is economically very large. It seems that suppliers tend to compensate a loss in sales by extending more credit to their customers in the specifications (2), (4), (6), (7), (9), (11) and (13).

The price discrimination theory argues that trade credit should be positively correlated to the firm's gross profit margin. The reasoning is that firms will sell more in case they have a larger gross profit margin, even if they have to finance an additional unit (Petersen and Rajan (1997)).

Inconsistent with this theory, we find a negative association between accounts receivable and GROSS (see Table 2, columns 2, 4, 6, 7, 9, 11 and 13).

Results from model specification (2) and (4) imply that the initial firm's accounts receivable is an important determinant in explaining the firm's future accounts receivable. However we examine if sectorial differences affects the firm's future accounts receivable. In other words, "Do the firm's initial accounts receivable affects the firm's future receivable differently by their industry?" or "Does the impact of the mentioned determinants may depend or be conditional on the firm's industry?". To avoid perfect multicollinearity we define the Agriculture sector (i.e., the first sector) as the reference sector. The results of model 7 indicate that the differences between sectors with respect to firm's initial accounts receivable do not tend to affect largely the firm's future accounts receivable (except for the Transport Storage, the Professional Science and Technical Activities sectors).   For example the coefficient of the interaction term INITIAL_ACCOUNTS_RECEIVABLE * TRANSPORTATION_STORAGE is positive and significant at 5 percent level. Firms tend to extend more financing to their customers if a firm belongs to the Transportation and Storage Industry in reference to the agriculture industry.

Interestingly the economic importance of the initial accounts receivable of the firm's industry is negligible in determining the firm's future accounts receivable in models (8) to (13). Thus large and more mature firms do not tend to attach much importance to the past trade credit terms in their own industry in determining their future trade credit terms. It seems that more mature private Belgian firms have already established their own optimal trade credit terms and are not likely to pay much more attention to their past trade credit terms of their industry.

We have to recognize the dangers of already drawing strong conclusions because almost all the firms in our primary sample are mature firms. Nevertheless, the evidence provide insights

that the firm's initial accounts receivable tends to be the single most important determinant of the firm's future accounts receivable even after controlling for sectorial effects, the firm's initial accounts payable, and the initial receivable of the firm's industry.[6] For robustness, we also performed additional regressions on a sample of financially distressed firms (unreported). These regressions reveal that these firms tend to attach even more importance to their initial accounts receivable in determining their own future trade credit terms.

[Insert Table 2 about here]

4. The impact of traditional variables on accounts receivable

We examine the relative importance of the traditional determinants in capturing the accounts receivable variation or heterogeneity. A parametric framework (ANCOVA) is used to decompose the variation in accounts receivable. We estimate the next model:

$$Accounts\_Receivable_{it} = \alpha + \beta X_{it} + Accounts\_Receivable_{i0} + Mean\_Industry\_Accounts\_Receivable_{i0} + v_t + \lambda_t + \varepsilon_{it}. \quad (2)$$

where $Accounts\_Receivable_{i0}$ is firm i's initial accounts receivable, which we proxy for the first nonmissing value for accounts receivable, v is a year fixed effect; λ is an industry fixed effect, and X is a set of control variables. $Mean\_Industry\_Accounts\_Receivable_{i0}$ is the initial average accounts receivable of the firm's industry. We incorporate a set of traditional lagged control variables suggested by Petersen and Rajan (1997). Table 3 presents the results of the variance decomposition analysis for the full sample of firms. Each column in the Table belongs to a different model specification.

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[6] We compute the with-in and between variation of accounts receivable variable. The between variation is 0.8272 and the within variation is 0.4248. The variation in the accounts receivable variable varies significantly more between firms opposed to across firms for our full sample of firms.

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Table 3 shows the values as a fraction of the model specification's sum of squares attributable to each effect (for example, year, firm, size, sales growth, etc.). We only include one effect in model specifications (1) and (3). As a consequence, the entire explained sum of squares is related to that effect. For example, INITIAL_ACCOUNTS_RECEIVABLE variable alone captures 24.45 % of the variance in accounts receivable in the first model specification. NETUSE_RECEIVABLE_PAYABLE variable alone captures only 10.61 % of the variance in accounts receivable in model specification (3). We include the traditional determinants in model specification (9). The evidence suggests that variables LOAN and CASHFLOW capture most of the explanatory power of model specification (9). This model specification has an adjusted R² of 9.14 %. The variable LOAN explains on average 50.59 % of the variation in accounts receivable in case we only include traditional variables. The adjusted R² of model specification (9) is significantly lower compared to the adjusted R² of model specification (11). INITIAL_ACCOUNTS_RECEIVABLE and YEAR FE variables are included in the latter specification. We observe that the adjusted R² of the model specification (11) more than triples to 38.87 %. This finding suggests that a large part of the variation is caused by the INITIAL_ACCOUNTS_RECEIVABLE variable.

We are able to clarify the implications of the results of the variance decomposition analysis of accounts receivable. First, the results shown in Table 3 reinforces our suspicion that a large part of the total variation in accounts receivable is caused by the firm's initial accounts receivable (see Table 3, columns 10, 11, 15, 16 and 17). Moreover the initial average receivable of the firm's industry (INITIALMEAN_RECEIVABLE_INDUSTRY) explains very little of the total variation in accounts receivable in model specifications (13), (14), and (15). It seems that the

firm's accounts receivable is not industry-specific, but firm-specific.[7] Finally the observed results imply that accounts receivable is stable over time and it contains an important unobserved firm-specific component (i.e., firm specific effect). This component is not fully captured by the traditional determinants in previous studies. The traditional determinants alone explain 10.07 % of the variation of the accounts receivable in model specification (17). As a result, much of the explanatory power of the existing determinants falls well short of accounting for the variation captured by the firm's initial accounts receivable.

In sum, the variation or the heterogeneity in the firm's accounts receivable is largely cross-sectional driven opposed to time-series driven.[8] Accounts receivable tend to be firm-specific.

[Insert Table 3 about here]

5.   Robustness checks

5.1.   *Is Accounts receivable firm specific or industry specific: evidence from other European countries*

Before drawing strong conclusion from this exercise, we have to check if our findings are robust for private non-financial firms in other European countries. As mentioned in the literature review section the ability of the supplier to extend credit to their customer also depends on the country's customer payment risk, the pursuit of trade credit terms by the firm's customers, the legal and a financial system of a country. We use 8 different measures about the country's legal system in order to select eligible countries for the robustness checks. Additionally countries are

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[7] In unreported analysis we repeat this exercise for firms at sectorial level. Again heterogeneity in receivable is largely cross-sectional driven opposed to time-series driven.

[8] In unreported results we examine the methodological implications of our findings. A common used estimation methodology in previous studies on accounts receivable is the Pooled OLS regression estimation methodology. The Pooled OLS regression ignores firm-specific effects and serial correlation in the standard errors structure. The Panel OLS includes firm-specific effects, and it takes into consideration the likely serially correlated standard errors. There is a no confirmation of the possible presence of serial correlated errors for the full sample of firms. We also observe average changes of the coefficients moving from the Pooled OLS regressions to the Firm Fixed Effects regressions.

been assigned in different groups accordance to their customer payment risk. Three different customer payment risk groups are used: low, medium and high customer payment risk countries. Furthermore due to financial data restrictions, we are only able to select eight European countries: France, The United Kingdom, Italy, Czech Republic, Finland, Sweden, Greece and Portugal. Belgium is a country with a medium customer payment risk. An overview of the scores of each country on the different legal risk indicators is presented in Appendix 3. Summary statistics for the eight European countries are provided in Appendix 4.

We estimate the following regression:

$$\text{Accounts\_Receivable}_{it} = \alpha + \beta X_{it} + \gamma \text{Accounts\_Receivable}_{i0} + \gamma \text{Mean\_industry\_Accounts\_Receivable}_{i0} + \nu_t + \varepsilon_{it} \quad (4)$$

where i indexes firms, t indexes years, X is a set of control variables. The control variables evaluate the importance of firm's initial customer credit conditions relative to those of near period determinants. We incorporate a set of traditional determinants suggested by Petersen and Rajan (1997). $\text{Accounts\_Receivable}_{i0}$ is firm i's initial accounts receivable, which we proxy for with the first nonmissing value for accounts receivable. $\text{Mean\_industry\_Accounts\_Receivable}_{i0}$ is firm's industry average accounts receivables, ν is a year fixed effect; and ε is the random error term assumed to be possibly heteroskedastic. Differently from our initial definition of Account_Receivable, we define Accounts_Receivable as the ratio of short-term accounts receivable to sales. This is mainly due to the limitation of detailed financial information of non-financial private firms in 8 European countries provided by the Amadeus database. The results from estimating equation (4) are presented in Table 4[9]. Consistent with the estimation methodology applied in Section 3 each coefficient is scaled with the corresponding variable's

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[9] We have reestimated all the models of Table 2 using the full sample of firms for the eight European Countries separately. The results are available upon request.

standard deviation. As a result each reported variable estimate in Table 4 relates to one-standard deviation change in X.

The key finding of Table 4 (see model 2) is that firms tend to attach more importance to their initial accounts receivable than the initial average accounts receivable of the firm's industry in determining their future accounts receivable irrespective to the country in which a firm is located. The most important traditional variable for firms in countries with low customer payment risk is LOAN. It seems that suppliers tend to extend more credit to their customers in case they receive more external short-term financing. On the contrary the most important traditional variable for firms in countries with high customer payment risk is LNTOTALASSETS. For example one-standard deviation change in the LNTOTALASSETS corresponds to an average change of 74.19 % in the firm's future accounts receivable in the Czech Republic.

5.2. *The impact of traditional variables on trade credit receivable: Evidence from European countries*

We want to understand if the results of the variance decomposition analysis of Belgian non-financial private firms hold in other European countries. We estimate the following ANCOVA model:

$\text{Accounts\_Receivable}_{it} = \alpha + \beta X_{it} + \text{Accounts\_Receivable}_{i0} + \text{Mean\_Industry\_Accounts\_Receivable}_{i0} + \nu_t + \lambda_t + \varepsilon_{it}.$ (5)

where $\text{Accounts\_Receivable}_{i0}$ is firm i's initial accounts receivable, which we proxy for the first nonmissing value for accounts receivable, ν is a year fixed effect; λ is an industry fixed effect, and X is a set of control variables. $\text{Mean\_Industry\_Accounts\_Receivable}_{i0}$ is the initial receivable of the firm's industry. We incorporate a set of traditional lagged control variables

suggested by Petersen and Rajan (1997). Table 5 presents the results of the variance decomposition analysis for firms in eight different European Countries.

The key finding of this Table is that more than half of the variation in accounts receivable is explained by the firm's initial accounts receivable for firms in Sweden, The United Kingdom, France, Italy or in Portugal. As a results, accounts receivable is firm-specific for firms in Sweden, The United Kingdom, France, Italy and Portugal. Receivable is neither firm-specific or industry-specific for firms in Finland, Czech Republic and Greece.

Interestingly we get a clear picture of the single most important traditional variable in capturing the heterogeneity in accounts receivable for countries with low customer payment risk such as Sweden and Finland. It seems that firms tend to finance their extension of trade credit to their customer in case they have more access to short-term external financing. However, we get a distorted view on the single most important traditional variable for firms in countries with a high customer payment risk (such as Italy, Czech Republic, Greece or in Portugal). For example the single most important traditional variable in explaining the receivable heterogeneity for Italian (Greek) firms is GROSSMARGIN (LOAN).

[Insert Table 6 about here]

6. What explains the inertia in firm's accounts receivable?

The results from the variance decomposition analysis for Belgian non-financial private firms show that accounts receivable tends to be firm-specific (see Section 4). Firm's initial receivable in 2001 is highly correlated with its receivable in the following years up to 2008, even after controlling for other variables that traditionally have been used to explain firm's accounts receivable, like firm size. Similar pattern is found among firms in other European countries such as Sweden, The United Kingdom, France, Italy and Portugal (see Section 5.2). In this section we

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tend to provide more evidence that would help to explain why this inertia in accounts receivable exists. More specifically we interact the initial accounts receivable variable with the most important traditional variable. For example the most important variable of the traditional variables in capturing the variability in accounts receivable for Belgian non-financial firms is LOAN variable (see column 15, Table 3). Similar we select the following variables LOAN (Finland, Sweden and Greece), LNTOTALASSETS (The United Kingdom and Czech Republic), and PRODUCTQUALITY (France and Portugal). Adding interaction terms to our model will greatly expand our understanding of the possible relations between the most important variable that captures almost all the variation in accounts receivable (i.e. INITIAL_ACCOUNTS_RECEIVABLE) and the single most important traditional variable. Furthermore this allows us to test and to clarify whether the single most important traditional variable is interrelated to the firm's accounts receivable in 2001. It would also shed light which of the existing theories of trade credit tend to explain this inertia. We estimate the following model:

$$\text{Accounts\_Receivable}_{it} = \alpha + \beta X_{it} + \text{Accounts\_Receivable}_{i0} + \text{Mean\_Industry\_Accounts\_Receivable}_{i0} +$$

$$\nu_t + \lambda_t + \varepsilon_{it}. \ (6)$$

where Accounts_Receivable$_{i0}$ is firm i's initial accounts receivable, which we proxy for with the first nonmissing value for accounts receivable[10], v is a year fixed effect; λ is interaction term, and X is a set of control variables. We incorporate a set of traditional lagged control variables suggested by Petersen and Rajan (1997). Table 6 presents the results from estimation equation (6). Each coefficient is scaled with the corresponding variable's standard deviation, thus, each

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[10] Consistent with the previous sections we define accounts receivable as the ratio of the sum of short-term and long-term receivable to sales for our Belgian non-financial firms. Accounts receivable is defined as the ratio of short-term receivable to sales for firms in other European countries.

reported variable estimate in Table 6 relates to one-standard deviation change in X (Lemmon, Roberts, and Zender (2008)).

We find that the single most important traditional variable and the INITIAL_ACCOUNTS_RECEIVABLE variable have both a significant effect on accounts receivable for almost all the European countries, except for France and Czech Republic. For example the results from Table 6 indicate that there exists a significant and positive relation between the INITIAL_ACCOUNTS_RECEIVABLE and LOAN variable for Belgian non-financial private firms. The interaction term INITIAL_ACCOUNTS_RECEIVABLE * LOAN describes the joint impact of the variables INITIAL_ACCOUNTS_RECEIVABLE and LOAN to accounts receivable when all other independent variables are equal to zero. We know from the fact that the coefficient on INITIAL_ACCOUNTS_RECEIVABLE * LOAN is positive and that this effect increases in case the firm receives more external short-term financing.[11] However, there is no way of knowing from the results presented in Table 6 what the impact is of the firm's initial accounts receivable when the values of LOAN variable are greater than 0. As a result we present figures (see Appendix 5[12]) that graphically illustrates how the marginal effect of firm's initial accounts receivable changes across the observed single most important traditional variable LOAN (Brambor, Clark, and Golder (2006)). Interestingly we observe that the firm's initial accounts receivable have a strong increasing effect on account receivable when the firm gets more short-term financing (i.e. LOAN). It seems that firms do not tend to provide more financing to their customers in case these firms use more short-term financing. Similar trends are observed for firms in Finland, Sweden, France or in Greece.

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[11] The results in Table 7 (column 2) for Belgian non-financial firms indicate that the firm's initial accounts receivable has a positive significant increasing effect on our dependent variable accounts receivable when the firm's size increases (positive coefficient of INITIAL_ACCOUNTS_RECEIVABLE).

[12] A detailed overview of the marginal effects of changes in INITIAL_ACCOUNTS_RECEIVABLE on the most important traditional variable per country is given in Appendix 5.

In sum, we are able to explain the inertia in accounts receivable by interacting the firm's initial accounts receivable with the single most important traditional variable.

[Insert Table 7 about here]

7. Concluding Remarks

We began our empirical investigation by emphasizing the economic importance of both the firm's initial accounts receivable and the initial average accounts receivable of the firm's industry in determining the firm's future accounts receivable.

We find that the initial firm's accounts receivable is the single most important determinant in explaining the future accounts receivable for non-financial private Belgian firms even after controlling for industry effects. This finding is inconsistent with the notion that accounts receivable tends to be industry-specific. Similar results are found for firms in Sweden, The United Kingdom, France, Italy or Portugal. Accounts receivable do not tend to be either industry-specific or firm-specific for firms in Finland, the Czech Republic or Greece.

Firms in European countries where accounts receivable is firm-specific (such as Sweden, The United Kingdom, France, Italy, Belgium and Portugal) differ from each other in explaining the existing inertia in accounts receivable. For example the firm's initial accounts receivable has a strong decreasing effect on accounts receivable when their customers receive more time from their suppliers to check the quality of the delivered products in Portugal. On the contrary, firm's initial accounts receivable has a strong increasing effect on accounts receivable when the firms gets more short-term financing in Sweden, Belgium, France or Greece.

Previous research has provided insights in the existing interactions between accounts payable and accounts receivable. In essence, firms tend to extend more financing to their customers in case firms receive more financing from their suppliers. However, our results indicate that firms

tend to offer the same trade credit terms over time in case suppliers receive more short-term financing. We think more work is needed to explain this interactions between accounts payable and accounts receivable. In line with this recommendation we also argue to examine whether accounts payable is either firm-specific or industry-specific. Nevertheless, our paper provides clear insights on the possible persistence of accounts receivable over time for firms in 9 different European countries.

Appendix 1: variable construction full sample of firms and subsample of financially distressed firms

This Appendix details the variable construction for analysis of the sample of Belgian firms. All numbers in the last column refers to the Belgian annual _accounts complete schemes codes.

Variable	Measurement	Belgian Annual accounts complete schemes codes
ACCOUNTS_RECEIVABLE	Ratio of the sum of short-term and long-term trade receivable to sales	[(40)+(290)]/(70)
LNTOTALASSETS	Ln(book value of total assets)	(20/28)
LNAGEFIRM	Ln(1+age)	
LOAN	Ratio current liabilities to sales	(42/48)/(70)
FINANCINGCOST	Ratio of financing costs to financial debt	(650)/[(170/4)+43]
CASHFLOW	Ratio of the sum of net profits and depreciations to sales	[(70/64) + (630) + (651)]/(70)
PRODUCT QUALITY	Ratio of sales to the difference between book value of total assets and the sum of short-term and long-term trade receivable	(70)/[(20/28)-((40)+(290))]
GROSSMARGIN	Difference between annual sales and annual purchases	(70) – (60)
Adjusted Altman Z-score	$0.717*T_1 + 0.847*T_2 + 3.107*T_3 + 0.420*T_4 + 0998*T_5$	T_1= (current assets (29/58) – current liabilities(42/48))/ Total assets (20/28)) T_2 = Retained earnings ((793) or (693)) / Total assets (20/28) T_3 = Earnings before interest and taxes* / Total Liabilities (17/49) T_4 = Book value of equity / Total liabilities T_5 = Sales / Total assets *Earnings before interest and taxes = (70/65 or 65/70) – (751) + (752/9) + (650) + (652/9)
SALESGROWTH	Annual sales growth	(70)
INITIALACCOUNTSRECEIVABLE	Initial levels of accounts receivable of a firm in year 2001	
INITIALACCOUNTSPAYABLE	Initial levels of accounts payable of a firm in year 2001	
NETUSE_RECEIVABLE_PAYABLE	Initial net use of trade credit defined as the difference between the initial receivable and payable of the firm in year 2001	
INITIALMIN_RECEIVABLE_INDUSTRY	The minimum value of receivable in the industry of the firm's primary activity in year 2001 based on 2-digit NACE2008 codes.	
INITIALMEAN_RECEIVABLE_INDUSTRY	The mean value of receivable in the industry of the firm's primary activity in year 2001 based on 2-digit NACE2008 codes	
INITIALMAX_RECEIVABLE_INDUSTRY	The maximum value of receivable in the industry of the firm's primary activity in year 2001 based on 2-digit NACE2008 codes	
MIN_RECEIVABLE_INDUSTRY	The minimum value of receivable in the industry of the firm's primary activity based on 2-digit NACE2008 codes	
MEAN_RECEIVABLE_INDUSTRY	The mean value of receivable in the industry of the firm's primary activity based on 2-digit NACE2008 codes	
MAX_RECEIVABLE_INDUSTRY	The maximum value of receivable in the industry of the firm's primary activity based on 2-digit NACE2008 codes	
AGRICULTURE	A dummy variable. 1 if the firm's primary activity industry belongs to the Agriculture, forestry and fishing sector, else 0.	
MINING_QUARRYING	A dummy variable. 1 if the firm's primary activity industry belongs to the Mining and quarrying sector, else 0.	
MANUFACTURING	A dummy variable. 1 if the firm's primary activity industry belongs to the Manufacturing sector, else 0.	
ELECTRICITY_GAS_STEAM_AIR	A dummy variable. 1 if the firms primary activity industry belongs to the Electricity, gas,	

	steam and air conditioning supply sector, else 0.	
WATER	A dummy variable. 1 if the firm's primary activity industry belongs to the Water supply; sewerage; waste management and remediation activities sector, else 0.	
CONSTRUCTION	A dummy variable. 1 if the firm's primary activity industry belongs to the Construction sector, else 0.	
WHOLESALE_RETAIL_TRADE	A dummy variable. 1 if the firms primary activity industry belongs to the Wholesale and retail trade; repair of motor vehicles and motorcycles sector, else 0.	
TRANSPORT_STORAGE	A dummy variable. 1 if the firm's primary activity industry belongs to the Transportation and storage sector, else 0.	
ACCOMODATION_FOODSERVICE	A dummy variable. 1 if the firm's primary activity industry belongs to the Accommodation and food service activities sector, else 0.	
ICT	A dummy variable. 1 if the firm's primary activity industry belongs to the Information and communication sector, else 0.	
PROF_SCIENCE_TECHNICAL_ACTIVITIES	A dummy variable. 1 if the firm's primary activity industry belongs to the Professional, scientific and technical activities sector, else 0.	
ART_ENTERTAINMENT_RECREATION	A dummy variable. 1 if the firms primary activity industry belongs to the Arts, entertainment and recreation sector, else 0.	
OTHER_SERVICES	A dummy variable. 1 if the firm's primary activity industry belongs to the other services activities sector, else 0.	

Appendix 2: variable construction for sample of European firms

This Appendix details the variable construction for analysis of the sample of European firms.

Variable	Measurement
ACCOUNTS_RECEIVABLE	Ratio of short-term trade receivable to sales
LNTOTALASSETS	Ln(book value of total assets)
LNAGEFIRM	Ln(1+age)
LOAN	Ratio current liabilities to sales
FINANCINGCOST	Ratio of financing expenses to financial debt
CASHFLOW	Ratio of the sum of net profits and depreciations to sales
PRODUCT QUALITY	Ratio of sales to the difference between book value of total assets and the sum of short-term and long-term trade receivable
GROSSMARGIN	Difference between operating turnover and operating expenses
SALESGROWTH	Annual sales growth
INITIAL_ACCOUNTS_RECEIVABLE	Initial levels of accounts receivable of a firm in year 2001
INITIAL_ACCOUNTS_PAYABLE	Initial levels of accounts payable of a firm in year 2001
NETUSE_RECEIVABLE_PAYABLE	Initial net use of trade credit defined as the difference between the initial receivable and payable of the firm in year 2001
INITIALMIN_RECEIVABLE_INDUSTRY	The minimum value of receivable in the industry of the firm's primary activity in year 2001 based on 2-digit NACE2008 codes
INITIALMEAN_RECEIVABLE_INDUSTRY	The mean value of receivable in the industry of the firm's primary activity in year 2001 based on 2-digit NACE2008 codes
INITIALMAX_RECEIVABLE_INDUSTRY	The maximum value of receivable in the industry of the firm's primary activity in year 2001 based on 2-digit NACE2008 codes
AGRICULTURE	A dummy variable. 1 if the firm's primary activity industry belongs to the Agriculture, forestry and fishing sector, else 0.
MINING_QUARRYING	A dummy variable. 1 if the firm's primary activity industry belongs to the Mining and quarrying sector, else 0.
MANUFACTURING	A dummy variable. 1 if the firm's primary activity industry belongs to the Manufacturing sector, else 0.
ELECTRICITY_GAS_STEAM_AIR	A dummy variable. 1 if the firms primary activity industry belongs to the Electricity, gas, steam and air conditioning supply sector, else 0.
WATER	A dummy variable. 1 if the firm's primary activity industry belongs to the Water supply; sewerage; waste management and remediation activities sector, else 0.
CONSTRUCTION	A dummy variable. 1 if the firm's primary activity industry belongs to the Construction sector, else 0.
WHOLESALE_RETAIL_TRADE	A dummy variable. 1 if the firms primary activity industry belongs to the Wholesale and retail trade; repair of motor vehicles and motorcycles sector, else 0.
TRANSPORT_STORAGE	A dummy variable. 1 if the firm's primary activity industry belongs to the Transportation and storage sector, else 0.
ACCOMODATION_FOODSERVICE	A dummy variable. 1 if the firm's primary activity industry belongs to the Accommodation and food service activities sector, else 0.
ICT	A dummy variable. 1 if the firm's primary activity industry belongs to the Information and communication sector, else 0.
PROF_SCIENCE_TECHNICAL_ACTIVITIES	A dummy variable. 1 if the firm's primary activity industry belongs to the Professional, scientific and technical activities sector, else 0.
ART_ENTERTAINMENT_RECREATION	A dummy variable. 1 if the firms primary activity industry belongs to the Arts, entertainment and recreation sector, else 0.
OTHER_SERVICES	A dummy variable. 1 if the firm's primary activity industry belongs to the other services activities sector, else 0.

Appendix 3: legal risk indicators of European countries

This table gives an overview of number of legal risk indicators of a country produced by the World Bank in 2008. For example: the extent of disclosure index reflects the degree to which a firm is willing to disclose valuable information to all the parties involved. Higher scores indicate that firms are willing to disclose information. Lower scores indicate that firms are rather reticent about providing additional credit information. Scores are 2005-2011 averages.

	Finland	Sweden	France	The United Kingdom	Belgium	Italy	Czech Republic	Greece	Portugal
Cost to enforce a contract (% of claim)	13,30	31,26	17,40	23,60	17,70	29,90	33,00	14,40	13,69
Credit: Strength of legal rights index (0=weak to 10=strong)	8,00	7,00	6,43	10,00	7,00	3,00	6,43	4,00	3,00
Depth of credit information index (0=low to 6=high)	4,00	4,00	4,00	6,00	4,00	5,14	5,00	4,43	4,00
Extent of director liability index (0 to 10)	4,00	4,00	1,00	7,00	6,00	4,00	5,00	3,57	5,00
Extent of disclosure index (0 to 10)	6,00	6,00	10,00	10,00	8,00	7,00	2,00	1,00	6,00
Procedures required to enforce a contract (number)	33,00	30,00	29,00	29,43	26,86	41,00	27,00	39,00	33,14
Resolving Insolvency: cost (% of estate)	4,00	9,00	9,00	6,00	4,00	21,43	15,57	9,00	9,00
Resolving Insolvency: recovery rate (cents on the dollar)	88,49	75,51	46,20	85,81	86,57	61,23	30,19	44,34	72,29
Customer payment risk	Low	Low	Medium	Medium	Medium	High	High	High	High

Appendix 4: Summary statistics of European Countries

This Appendix presents summary statistics of eight European countries for private non-financial firms from 2001 to 2008 separately. The table presents mean, medians (in brackets), standard deviations and the number of observations per variable. Variable definitions are provided in Appendix 2.

Variable	ITALY			PORTUGAL			GREECE		
	Mean [Median]	Standard deviation	Obs.	Mean [Median]	Standard Deviation	Obs.	Mean [Median]	Standard Deviation	Obs.
ACCOUNTS_RECEIVABLE	0.1727 [0.0745]	0.21019	951,506	0.2630 [0.2116]	0.2282	524,306	0.3449 [0.3099]	0.2361	160,110
SALESGROWTH	0.1028 [0.0481]	0.3524	812,181	0.0329 [0.0304]	0.2754	383,774	0.0770 [0.0670]	0.2570	147,609
LNTOTALASSETS	13.9660 [13.9247]	1.4100	883,705	12.3809 [12.3124]	1.3645	545,912	14.2802 [14.2246]	1.0980	174,629
LNAGEFIRM	2.6086 [2.6391]	0.6626	1,344,075	2.5461 [2.5649]	0.7425	1,055,781	2.4757 [2.4849]	0.5270	118,786
LOAN	0.9901 [0.4733]	2.1600	960,461	0.6740 [0.4580]	0.6576	514,161	0.6498 [0.5396]	0.4291	166,783
FINANCINGCOST	0.2024 [0.0767]	0.6336	960,147	0.0825 [0.0617	0.0788	193,560	0.1222 [0.0829]	0.1426	122,518
CASHFLOW	0.7275 [0.2226]	0.9104	912,133	0.0783 [0.0702]	0.0959	476,532	0.1304 [0.1060	0.1095	148,562
PRODUCTQUALITY	2.7457 [1.7723]	4.1768	476,401	2.3360 [1.7697]	1.8886	513,595	2.1430 [1.5856]	1.8386	166,781
GROSSMARGIN	5,866,278 [1,998,990]	8,555,101	549,682	-1,195,749 [-442,064.5]	184,094	514,184	-4,961,110 [2,626,433]	6,124,253	166,793

Variable	CZECH REPUBLIC			FINLAND			SWEDEN		
	Mean [Median]	Standard deviation	Obs.	Mean [Median]	Standard Deviation	Obs.	Mean [Median]	Standard Deviation	Obs.
ACCOUNTS_RECEIVABLE	0.0808 [0.0000]	0.1334	229,924	0.3449 [0.3099]	0.2361	160,110	0.1156 [0.0813]	0.1163	920,133
SALESGROWTH	0.0419 [0.5000]	0.3476	170,992	-0.5772 [0.0565]	91.6410	155,377	-0.0126 [0.0315]	0.2860	819922
LNTOTALASSETS	8.7693 [8.8520]	2.3018	260,081	14.2802 [14.2246]	1.0980	174,629	14.4443 [14.3774]	1.2653	907,172
LNAGEFIRM	2.1282 [2.1972]	0.4845	547,728	2.4757 [2.4849]	0.5270	118,786	2.6182 [2.6391]	0.5421	962,397
LOAN	1.2259 [0.2472]	33.7122	241,322	0.5396 [0.5396]	0.4291	166,783	0.2843 [0.2118]	0.2263	847,312
FINANCINGCOST	0.1837 [0.1307]	0.2120	99,690	-0.0807 [-0.0807]	0.1478	122,518	0.1334 [0.0931]	0.1156	350,818
CASHFLOW	-0.6148 [0.0669]	56.2538	187,336	0.1304 [0.1060]	0.1095	148,562	0.0869 [0.0645]	0.1111	776,720
PRODUCTQUALITY	2.2389 [1.8763]	2.0416	224,378	2.1430 [1.5856]	1.8386	166,781	2.5300 [2.0475]	1.9149	839,353
GROSSMARGIN	67028.46 [11,105.00]	170,605.80	233,970	-4,961,110 [-2,626,433]	6,124,253	166,793	-1,400,000 [-5,468,000]	2,000,000	845,402

Variable	THE UNITED KINGDOM			FRANCE		
	Mean [Median]	Standard deviation	Obs.	Mean [Median]	Standard Deviation	Obs.
ACCOUNTS_RECEIVABLE	0.0793 [0.0084]	0.1285	397,283	0.1516 [0.1202]	0.1499	2,611,737
SALESGROWTH	0.0044 [0.0016]	0.3237	342,615	0.0317 [0.0342]	0.1321	2,276,758
LNTOTALASSETS	5.3622 [5.5175]	2.2506	1,445,303	6.1995 [6.0638]	1.1305	1,775,184
LNAGEFIRM	2.5820 [2.5649]	0.7412	1,508,258	2.5399 [2.5649]	0.5638	2,713,107
LOAN	1.2374 [0.2500]	4.1403	400,885	0.3302 [0.2804]	0.1844	2,363,194
FINANCINGCOST	0.05114 [0.0511]	0.7880	170,636	0.1683 [0.0833]	0.2546	2,425,315
CASHFLOW	0.1214 [0.0770]	0.3942	398,271	0.7536 [0.0992]	1.4367	2,356,782
PRODUCTQUALITY	4.0878 [1.7984]	8.3414	393,000	70.3296 [3.5235]	172.8430	2,311,980
GROSSMARGIN	2435.2460 [389.00]	6073.6940	284,113	887,146.60 [1069.00]	1,958,000	2,311,980

Appendix 5: The marginal effect of the firm's initial accounts receivable on the most important traditional variable

This Appendix presents figures with the marginal effect of the firm's initial accounts receivable on the most important traditional variable for private non-financial firms in 9 different European countries separately. The solid sloping line in each figure indicates how the marginal effect of firm's initial accounts receivable (INITIAL_ACCOUNTS_RECEIVABLE) changes with the most important traditional variable. The surrounding dashed lines represent 95% confidence intervals. Variable definitions are provided in Appendix 2.

Is accounts-receivable industry-specific or firm-specific?

Italy

Czech Republic

Portugal
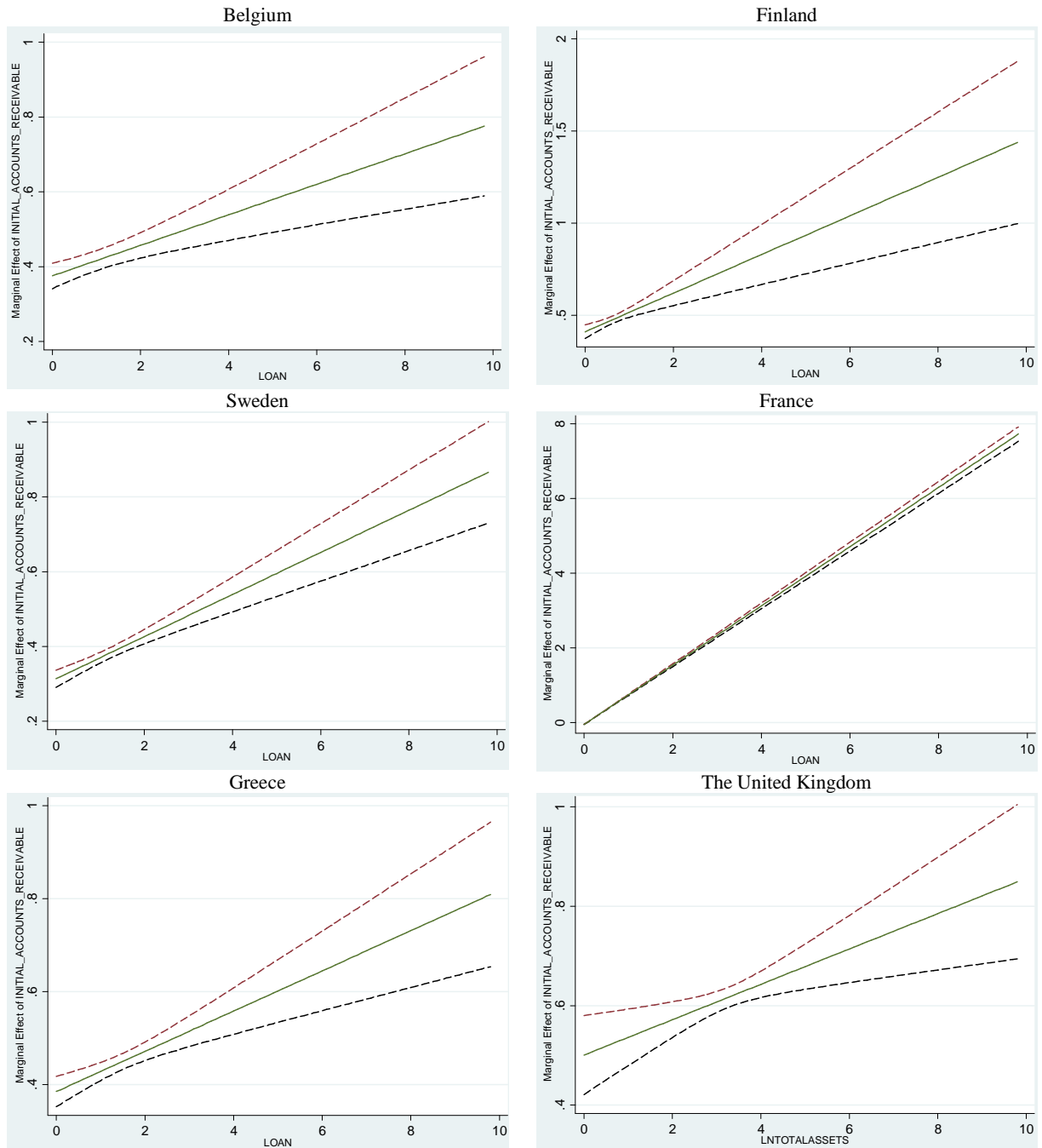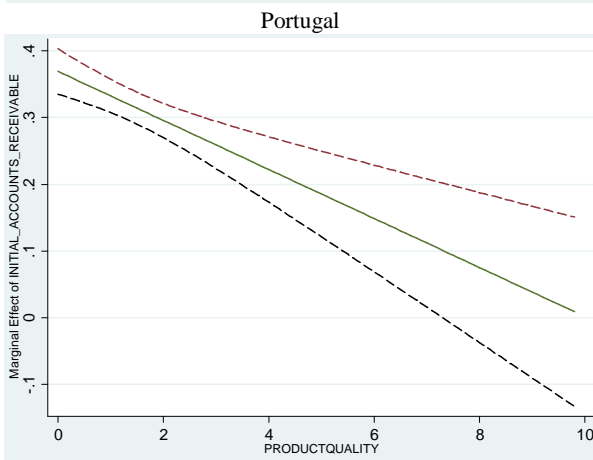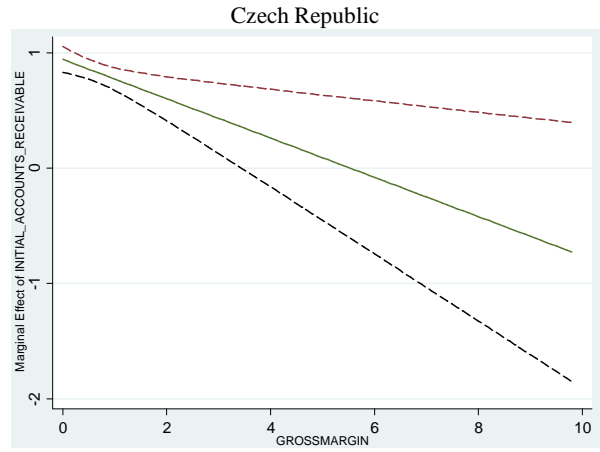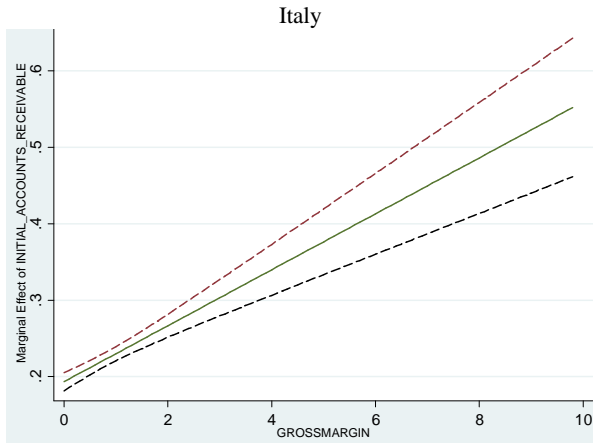
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Table 1: Summary Statistics

The sample consists of non-financial Belgian firms from 2001 to 2008. The table presents mean, medians (in brackets), standard deviations and the number of observations for the sample of all non-financial firms. Variable definitions are provided in Appendix 1.

Variable	ALL FIRMS		
	Mean [Median]	Standard deviation	Obs.
ACCOUNTS_RECEIVABLE	0.2321 [0.1905]	0.1913	66,560
SALESGROWTH	0.1181 [0.1323]	0.1858	60,848
LNTOTALASSETS	3.7142 [3.8975]	2.2183	67,739
LNAGEFIRM	5.2876 [5.2636]	0.5594	68,994
LOAN	0.8522 [0.5409]	0.5069	63,303
FINANCINGCOST	0.1435 [0.0000]	0.0897	69,459
CASHFLOW	0.5229 [0.1990]	0.3256	69,457
PRODUCTQUALITY	1.1442 [0.9248]	2.4190	64,089
GROSSMARGIN	5,787.61 [3,367.50]	6,869.51	61,136

Table 2: The effect of initial accounts receivable on future account receivable (Sample of All Firms)

The sample consists of all non-financial firms in the BELFIRST database from 2001 to 2008. Table 2 shows the parameter estimates that are scaled by the standard deviation of the underlying variable on several different model specifications. The interpretation of each measure is the change in accounts receivable associated with one-standard deviation change in the determinant (Lemmon, Roberts, and Zender (2008)). Table 2 presents results using the full sample (e.g., all firms). Year Fixed effects denote whether year fixed effects are included in the Panel OLS regressions. For brevity, we do not present the coefficients of the year dummies. T-statistics (Z-statistics) are computed using the standard errors robust to heteroskedasticity. T-statistics (Z-statistics) are in parentheses. Furthermore, we present the R² overall and the number of firm observations. All variables are trimmed at the upper and lower 5-percentiles. *, **, and *** denote significance at the 10 %, 5 %, and 1% levels, respectively. Variable definitions are provided in Appendix 1. The reference category for the sector dummies in model specification (7) is agriculture industry.

	Importance of the firm's initial accounts receivable							Importance of the initial accounts receivable in the firm's industry				Importance of both the firm's initial receivable and initial receivable of firm's industry	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
INITIAL_ACCOUNTS_RECEIVABLE	0.4741*** [46.43]	0.4413*** [32.54]	0.4815*** [39.73]	0.4583*** [29.41]			0.2283*** [3.51]					0.4720*** [46.29]	0.4561*** [34.63]
INITIAL_ACCOUNTS_PAYABLE			0.0242*** [2.76]	-0.0031 [-0.30]							0.2011*** [15.15]		
NETUSE_RECEIVABLE_PAYABLE					0.2870*** [25.23]	0.2832*** [22.15]							
INITIALMIN_RECEIVABLE_INDUSTRY										0.0416*** [3.44]	0.0198** [2.08]		
INITIALMEAN_RECEIVABLE_INDUSTRY								0.0445*** [3.78]	0.0281** [2.55]	0.9854*** [6.88]	-0.0850 [-0.67]	0.0186*** [3.03]	0.0113** [2.04]
INITIALMAX_RECEIVABLE_INDUSTRY										-0.0000 [-0.38]	0.0000 [0.66]		
LNTOTALASSETS		0.3813*** [19.08]		0.3764*** [18.52]		0.4308*** [18.87]	0.3933*** [19.18]		0.4790*** [17.77]		0.4654*** [17.69]		0.3838*** [19.60]
CASHFLOW		0.0770*** [5.54]		0.0809*** [5.16]		0.0847*** [4.98]	0.0738*** [4.76]		0.1043*** [7.40]		0.1236*** [7.00]		0.0745*** [5.68]
LOAN		0.1133*** [14.60]		0.1052*** [13.66]		0.1181*** [14.44]	0.1191*** [14.30]		0.1282*** [15.45]		0.1135*** [13.83]		0.1062*** [14.40]
FINANCINGCOST		-0.0014 [-0.66]		-0.0002 [-0.12]		-0.0017 [-0.81]	0.0001 [0.06]		-0.0022 [-1.00]		0.0011 [0.51]		-0.0023 [-1.12]
LNAGEFRIM		-0.0088 [-1.25]		-0.0126* [-1.80]		-0.0381*** [-4.79]	-0.0033 [-0.47]		-0.0232** [-2.48]		-0.0142 [-1.58]		-0.0091 [-1.31]
SALESGROWTH		-0.0305*** [-8.38]		-0.0296*** [-8.18]		-0.0298*** [-8.16]	-0.0305*** [-8.03]		-0.0300*** [-7.90]		-0.0324*** [-8.52]		-0.0303*** [-8.52]
PRODUCTQUALITY		0.0845*** [12.25]		0.0812*** [11.77]		0.0882*** [11.79]	0.0970*** [13.91]		0.0998*** [12.10]		0.0951*** [12.15]		0.0836*** [12.49]
GROSSMARGIN		-0.1427*** [-18.41]		-0.1393*** [-18.06]		-0.1573*** [-18.72]	-0.1570*** [-19.09]		-0.1724*** [-19.29]		-0.1641*** [-18.62]		-0.1415*** [-18.85]
MIN_RECEIVABLE_INDUSTRY		0.0053 [1.54]		0.0057* [1.66]		0.0063* [1.78]	0.0050 [1.35]						
MEAN_RECEIVABLE_INDUSTRY		-0.0026 [-0.97]		-0.0012 [-0.49]		-0.0009 [-0.36]	0.0002 [0.08]						
MAX_RECEIVABLE_INDUSTRY		0.0280 [1.29]		0.0282 [1.33]		0.0335 [1.52]	-0.1346 [-1.51]						
MANUFACTURING *							0.1073**						

INITIAL_ACCOUNTS_RECEIVABLE							[1.97]						
WATER * INITIAL_ACCOUNTS_RECEIVABLE							0.0029 [0.09]						
CONSTRUCTION * INITIAL_ACCOUNTS_RECEIVABLE							0.0972** [2.12]						
WHOLESALE_RETAIL_TRADE * INITIAL_ACCOUNTS_RECEIVABLE							0.1873*** [3.31]						
TRANSPORT_STORAGE * INITIAL_ACCOUNTS_RECEIVABLE							0.1178** [2.48]						
ACCOMODATION_FOODSERVICE * INITIAL_ACCOUNTS_RECEIVABLE							0.0022 [0.16]						
ICT * INITIAL_ACCOUNTS_RECEIVABLE							0.0369 [0.91]						
PROF_SCIENCE_TECHNICAL_ACTIVITIES * INITIAL_ACCOUNTS_RECEIVABLE							0.1422** [2.54]						
ART_ENTERTAINMENT_RECREATION * INITIAL_ACCOUNTS_RECEIVABLE							0.0580*** [3.84]						
OTHER_SERVICES * INITIAL_ACCOUNTS_RECEIVABLE							0.0123 [1.58]						
MANUFACTURING							0.1702 [1.17]						
WATER							-0.0644 [-0.43]						
CONSTRUCTION							0.3644 [1.21]						
WHOLESALE_RETAIL_TRADE							-0.0538 [-0.34]						
TRANSPORT_STORAGE							-0.3270** [-2.22]						
ACCOMODATION_FOODSERVICE							-0.1802 [-1.11]						
ICT							-0.3337** [-2.03]						
PROF_SCIENCE_TECHNICAL_ACTIVITIES							0.2246 [1.17]						
ART_ENTERTAINMENT_RECREATION							-0.1446 [-0.91]						
OTHER_SERVICES							-1.0611** [-2.53]						
CONSTANT							0.0230 [0.10]						
Observations	61,314	31,772	56,092	30,023	56,092	30,023	29,065	66,560	35,727	62,012	31,599	61,314	33,805
Number of firms	7,325	5,952	6,589	5,466	6,589	5,466	5,897	8,205	6,493	7,545	5,493	7,325	6,024
R²-overall	0.2445	0.3650	0.2632	0.3753	0.1061	0.1937	0.3440	0.0043	0.0587	0.0088	0.1183	0.2454	0.3796
YEAR FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Wald Chi2 (p-value)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 3: Variance Decomposition Analysis model of accounts receivable

The sample consists of all nonfinancial firms from 2001 to 2008. This Table presents variance decomposition for different model specifications. The numbers in the body of the Table, excluding the last three rows, correspond to the fraction of the total Type III partial sum of squares for each model. We divide the partial sum for each effect by the cumulative partial sum of squares across all the effects in a particular model specification. Consequently, the total of each column is one. We have applied this technique for because we are confronted with an unbalanced data and therefore the number of observations corresponding to each effect is not the same in the different model specification (Lemmon, Roberts, and Zender (2008)).The interpretation of the values in this Table for the levels of accounts receivables is as follows: model specification (9), 50.59 % of the explained sum of squares is captured by the included covariates in model (9) is related to LOAN. The last row of Table 3 presents the adjusted R² corresponding to each specification. All variables are trimmed at the upper and lower five-percentiles. Year FE are calendar year fixed effects. Industry Fixed effects are 1-NACE2008 industry dummies.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
INITIAL_ACCOUNTS_RECEIVABLE	1,0000	0,9980				0,9480	0,9538			0,8738	0,8677				0,8440	0,8367	0,8903
INITIAL_ACCOUNTS_PAYABLE		0,0020					0,0019				0,0000						
NETUSE_RECEIVABLE_PAYABLE			1,0000						0,9669			0,6306					
INITIALMIN_RECEIVABLE_INDUSTRY					0,3845								0,0037				
INITIALMEAN_RECEIVABLE_INDUSTRY				1,0000	0,5697			0,0331					0,0811	0,0916	0,0120		
INITIALMAX_RECEIVABLE_INDUSTRY					0,0459								0,0000				
LNTOTALASSETS									0,0997	0,0256	0,0287	0,0678	0,1020	0,0936	0,0286	0,0344	0,0222
CASHFLOW									0,2121	0,0107	0,0098	0,0151	0,2477	0,1870	0,0136	0,0122	0,0110
LOAN									0,5059	0,0490	0,0472	0,1779	0,3902	0,4555	0,0563	0,0563	0,0409
FINANCINGCOST									0,0052	0,0005	0,0004	0,0068	0,0053	0,0054	0,0006	0,0004	0,0004
LNAGESFIRM									0,0001	0,0000	0,0001	0,0058	0,0003	0,0002	0,0000	0,0001	0,0000
SALESGROWTH									0,0152	0,0060	0,0064	0,0084	0,0191	0,0195	0,0078	0,0080	0,0057
PRODUCTQUALITY									0,0507	0,0099	0,0101	0,0187	0,0524	0,0562	0,0141	0,0175	0,0084
GROSSMARGIN									0,0845	0,0150	0,0179	0,0484	0,0928	0,0848	0,0185	0,0236	0,0123
MIN_RECEIVABLE_INDUSTRY									0,0183	0,0011	0,0011	0,0039					
MEAN_RECEIVABLE_INDUSTRY									0,0073	0,0005	0,0006	0,0037					
MAX_RECEIVABLE_INDUSTRY									0,0010	0,0004	0,0006	0,0008					
INDUSTRY FE																0,0068	
YEAR FE						0,0520	0,0444			0,0075	0,0095	0,0121	0,0054	0,0063	0,0044	0,0042	0,0089
SUM	1,0000	1,0000	1,0000	1,0000	1,0000	1,0000	1,0000	1,0000	1,0000	1,0000	1,0000	1,0000	1,0000	1,0000	1,0000	1,0000	1,0000
Nobs	61314	56092	56092	58932	54885	61314	56092	49560	33563	31772	30023	30023	30092	31970	30231	30371	33805
ADJ R²	0.2445	0.2632	0.1061	0.0063	0.0098	0.2498	0.2668	0.0933	0.0914	0.3785	0.3887	0.2146	0.1122	0.0971	0.3541	0.3586	0.3926

Table 4: Overview robustness results for European Countries

The sample consists of all non-financial firms in the Amadeus database from 2001 to 2008. Table 4 shows the parameter estimates that are scaled by the standard deviation of the underlying variable on several different model specifications for each European country ((i.e., Finland, Sweden, The United Kingdom, France, Czech Republic, Italy, Portugal, and Greece) separately. The interpretation of each measure is the change in accounts receivable associated with one-standard deviation change in the determinant (Lemmon, Roberts, and Zender (2008)). Year Fixed effects denote whether year fixed effects are included in the Panel OLS regressions. For brevity, we do not present the coefficients of the year dummies. T-statistics (Z-statistics) are computed using the standard errors robust to heteroskedasticity. T-statistics (Z-statistics) are in parentheses. Furthermore, we present the R² overall and the number of firm observations.. The reference category sector for private firms in Finland, Sweden, France, Italy or Greece is sector 3. The reference category sector for private firms in the United Kingdom, Portugal or Czech Republic is sector 1. All variables are trimmed at the upper and lower 5-percentiles. *, **, and *** denote significance at the 10 %, 5 %, and 1% levels, respectively. Variable definitions are provided in Appendix 2.

	LOW MEDIUM CUSTOMER PAYMENT RISK COUNTRIES						MEDIUM CUSTOMER PAYMENT RISK COUNTRIES					
	FINLAND			SWEDEN			THE UNITED KINGDOM			FRANCE		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
INITIAL_ACCOUNTS_RECEIVABLE	0.6406*** [75.97]	0.4876*** [47.08]	0.4797*** [45.99]	0.4192*** [117.56]	0.3963*** [53.49]	0.3872*** [23.67]	0.6140*** [106.13]	0.6117*** [58.01]	0.6010*** [11.31]	0.2639*** [210.45]	0.1902*** [92.04]	0.2053*** [99.31]
INITIALMEAN_RECEIVABLE_INDUSTRY	0.4063*** [22.67]	0.4713*** [21.10]	0.2703*** [5.41]	0.1082*** [69.21]	0.1051*** [40.28]		0.0521*** [24.00]	0.0375*** [10.26]		0.0370*** [41.65]	0.0532*** [43.84]	
LNTOTALASSETS		0.0923*** [31.08]	0.0941*** [31.20]		0.2483*** [48.25]	0.2468*** [47.89]		0.1272*** [19.84]	0.1264*** [19.33]		0.2942*** [64.76]	0.2934*** [65.86]
CASHFLOW		0.0955*** [6.54]	0.1029*** [6.85]		0.0465*** [18.67]	0.0462*** [18.28]		-0.0066 [-0.75]	-0.0103 [-1.17]		0.3977*** [11.96]	0.3592*** [10.95]
LOAN		0.1866*** [34.46]	0.1855*** [34.24]		0.2824*** [50.14]	0.2805*** [49.90]		0.0503*** [4.37]	0.0472*** [4.11]		0.2272*** [82.89]	0.2238*** [82.23]
FINANCINGCOST		0.0375*** [6.22]	0.0380*** [6.28]		-0.0318*** [-22.68]	-0.0318*** [-22.67]		-0.0198*** [-6.47]	-0.0217*** [-7.06]		-0.0147*** [-22.03]	-0.0146*** [-22.00]
LNAGEFIRM		-0.0038 [-1.33]	0.0010 [0.34]		0.0154*** [7.19]	0.0168*** [7.87]		-0.0058 [-1.50]	-0.0060 [-1.54]		-0.0096*** [-8.43]	-0.0113*** [-10.09]
SALESGROWTH		-0.0470*** [-11.46]	-0.0468*** [-11.43]		-0.0273*** [-13.81]	-0.0269*** [-13.62]		-0.0312*** [-8.97]	-0.0301*** [-8.65]		-0.0151*** [-21.19]	-0.0151*** [-21.29]
PRODUCTQUALITY		0.0342*** [34.64]	0.0339*** [33.77]		0.2473*** [75.99]	0.2462*** [75.47]		0.0443*** [8.60]	0.0426*** [8.18]		7.1029*** [9.61]	6.9770*** [9.59]
GROSSMARGIN		0.0000*** [28.62]	0.0000*** [28.82]		0.1628*** [43.98]	0.1615*** [43.86]		-0.0729*** [-12.88]	-0.0751*** [-13.27]		-108.7116*** [-37.27]	-106.1508*** [-37.05]
AGRICULTURE * INITIAL_ACCOUNTS_RECEIVABLE									0.0004 [0.03]			
MANUFACTURING 3 * INITIAL_ACCOUNTS_RECEIVABLE									0.0068 [0.20]			
ELECTRICITY_GAS_TEAM_AIR * INITIAL_ACCOUNTS_RECEIVABLE												
WATER * INITIAL_ACCOUNTS_RECEIVABLE			-0.6790*** [-2.79]			-0.0168** [-2.17]			-0.0099 [-0.93]			0.2461*** [4.61]
CONSTRUCTION * INITIAL_ACCOUNTS_RECEIVABLE			-0.1276 [-0.54]			-0.0396*** [-3.60]			-0.0201 [-0.78]			0.2443*** [14.35]
WHOLESALE_RETAIL_TRADE * INITIAL_ACCOUNTS_RECEIVABLE			0.1757*** [2.95]			0.0783*** [6.21]			0.0495** [2.05]			0.6667*** [52.36]
TRANSPORT_STORAGE * INITIAL_ACCOUNTS_RECEIVABLE			-0.0411 [-0.14]			0.0158* [1.94]			-0.0113 [-0.65]			0.6661*** [30.61]
ACCOMODATION_FOODSERVICE * INITIAL_ACCOUNTS_RECEIVABLE			-0.4491*** [-3.40]			-0.0099 [-1.47]			-0.0016 [-0.18]			0.5298*** [64.10]

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
ICT * INITIAL_ACCOUNTS_RECEIVABLE			0.0554 [0.21]			-0.0529*** [-3.70]			-0.0448* [-1.79]			0.3560*** [18.06]
PROF_SCIENCE_TECHNICAL_ACTIVITIES * INITIAL_ACCOUNTS_RECEIVABLE			0.0628 [0.56]			-0.0407** [-2.36]			-0.0170 [-0.56]			0.3349*** [16.76]
ART_ENTERTAINMENT_RECREATION * INITIAL_ACCOUNTS_RECEIVABL			-0.5777 [-0.55]			0.0100** [1.99]						0.1861 [0.80]
OTHER_SERVICES * INITIAL_ACCOUNTS_RECEIVABLE												
MINING-QUARRYING									-0.6495 [-0.59]			
MANUFACTURING									0.6348 [1.08]			
ELECTRICITY_GAS_STEAM_AIR												
WATER			0.2445** [2.20]			0.0376 [0.09]			-0.8576 [-0.98]			-0.3373*** [-4.66]
CONSTRUCTION			0.0225 [0.31]			1.0262*** [5.89]			-0.5233 [-0.88]			-0.2671*** [-12.76]
WHOLESALE_RETAIL_TRADE			-0.0748*** [-3.59]			-2.9188*** [-13.54]			-1.2694*** [-2.68]			-0.5786*** [-60.45]
TRANSPORT_STORAGE			-0.0014 [-0.02]			-1.3918*** [-5.95]			0.7875 [1.23]			-0.7773*** [-29.67]
ACCOMODATION_FOODSERVICE			0.0088 [0.33]			-8.8016*** [-16.90]			-10.0785*** [-5.80]			-0.3405*** [-78.03]
ICT			0.0292 [0.30]			1.7712*** [5.97]			2.3889*** [4.07]			-0.4807*** [-17.32]
PROF_SCIENCE_TECHNICAL_ACTIVITIES			-0.0193 [-0.53]			1.0926*** [5.18]			0.0130 [0.01]			-0.3947*** [-15.87]
ART_ENTERTAINMENT_RECREATION			0.2011 [0.46]			-5.9275*** [-6.43]						-0.2720 [-0.89]
OTHER_SERVICES												
CONSTANT	0.0479*** [9.62]	-1.3434*** [-32.81]	-1.3012*** [-28.16]	-0.0215*** [-3.18]	-3.4473*** [-57.26]	-2.8736*** [-47.00]	0.0046 [0.48]	-0.1609*** [-6.32]	0.0453 [0.92]	0.6784*** [422.59]	-1.2697*** [-30.66]	-1.1252*** [-27.62]
Year FE	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Nobs	77,840	36,977	36,977	815,729	216,646	216,646	311,805	77,235	77,235	2,448,931	1,088,185	1,088,156
R³-overall	0.3900	0.5434	0.5484	0.2085	0.3581	0.3672	0.3694	0.4214	0.4328	0.4613	0.4855	0.5145
Wald Chi2 (p-value)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Is accounts-receivable industry-specific or firm-specific?

	HIGH CUSTOMER PAYMENT RISK COUNTRIES											
	ITALY			CZECH REPUBLIC			GREECE			PORTUGAL		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
INITIAL_ACCOUNTS_RECEIVABLE	0.3697*** [117.87]	0.2199*** [47.76]	0.1497*** [24.22]	1.0395*** [35.10]	0.8729*** [19.42]	0.8446*** [9.15]	0.6078*** [81.47]	0.4583*** [50.74]	0.4779*** [34.33]	0.3341*** [51.49]	0.3281*** [26.39]	0.3380*** [4.56]
INITIALMEAN_RECEIVABLE_INDUSTRY	0.0701*** [29.86]	0.0930*** [24.62]		0.0547*** [8.66]	0.0853*** [8.99]		0.1054*** [16.76]	0.1462*** [17.37]		0.0113** [2.28]	-0.0269*** [-3.46]	
LNTOTALASSETS		0.3346*** [36.93]	0.3287*** [36.60]		0.7419*** [27.25]	0.7210*** [26.15]		0.4437*** [34.07]	0.4401*** [33.85]		0.6115*** [36.56]	0.6115*** [36.53]
CASHFLOW		-0.2990*** [-7.62]	-0.2842*** [-7.18]		-0.3801 [-0.46]	-0.3601 [-0.44]		0.0551*** [8.36]	0.0546*** [8.15]		0.0258*** [3.82]	0.0256*** [3.79]
LOAN		0.1914*** [13.27]	0.1888*** [13.15]		0.2986 [0.68]	0.3554 [0.81]		0.3410*** [35.28]	0.3394*** [35.19]		0.3577*** [19.75]	0.3573*** [19.73]
FINANCINGCOST		-0.0208*** [-11.44]	-0.0209*** [-11.52]		-0.0405*** [-7.71]	-0.0411*** [-7.80]		-0.0256*** [-7.29]	-0.0257*** [-7.26]		-0.0474*** [-10.88]	-0.0474*** [-10.88]
LNAGEFIRM		-0.0554*** [-11.35]	-0.0495*** [-10.26]		-0.0110 [-1.18]	-0.0108 [-1.16]		-0.0023 [-0.37]	-0.0002 [-0.04]		-0.0025 [-0.31]	-0.0027 [-0.33]
SALESGROWTH		0.0004 [0.19]	0.0001 [0.04]		-0.0577*** [-6.54]	-0.0581*** [-6.58]		-0.2463*** [-16.24]	-0.0628*** [-16.11]		-0.0597*** [-12.41]	-0.0598*** [-12.43]
PRODUCTQUALITY		0.1068*** [20.32]	0.1052*** [20.14]		0.1622*** [26.77]	0.1653*** [26.71]		0.2721*** [37.72]	0.2674*** [36.51]		0.2858*** [33.41]	0.2856*** [33.48]
GROSSMARGIN		-0.2219*** [-37.93]	-0.2185*** [-37.70]		-0.1538*** [-20.12]	-0.1505*** [-19.34]		0.2787*** [31.89]	0.2776*** [31.74]		0.2898*** [34.27]	0.2897*** [34.19]
MINING_QUARRYING * INITIAL_ACCOUNTS_RECEIVABLE						0.0207* [1.86]						0.0031 [0.11]
MANUFACTURING * INITIAL_ACCOUNTS_RECEIVABLE						0.0033 [0.11]						-0.0280 [-0.55]
ELECTRICITY_GAS_STEAM_AIR * INITIAL_ACCOUNTS_RECEIVABLE												
WATER * INITIAL_ACCOUNTS_RECEIVABLE			0.0054 [0.27]			0.0287** [2.05]			-0.0326 [-1.19]			-0.0028 [-0.15]
CONSTRUCTION * INITIAL_ACCOUNTS_RECEIVABLE			0.3907*** [5.00]			-0.0421* [-1.82]			-0.1320*** [-8.42]			-0.1144 [-0.29]
WHOLESALE_RETAIL_TRADE * INITIAL_ACCOUNTS_RECEIVABLE			0.1028*** [18.59]			0.0221 [0.71]			0.0419*** [2.61]			-0.0023 [-0.04]
TRANSPORT_STORAGE * INITIAL_ACCOUNTS_RECEIVABLE			0.0017 [0.32]			0.0316* [1.71]			0.0056 [0.34]			0.0252 [0.81]
ACCOMODATION_FOODSERVICE * INITIAL_ACCOUNTS_RECEIVABLE			0.0111 [1.58]			-0.0021 [-0.11]			-0.0554*** [-3.38]			0.0101 [0.28]
ICT *INITIAL_ACCOUNTS_RECEIVABLE			-0.0068 [-1.17]			0.0069 [0.36]			-0.0381** [-2.27]			-0.0164 [-0.78]
PROF_SCIENCE_TECHNICAL_ACTIVITIES * INITIAL_ACCOUNTS_RECEIVABLE			0.0744*** [6.28]						-0.0423*** [-2.60]			0.0027 [0.09]
ART_ENTERTAINMENT_RECREATION*INITIAL_ACCOUNTS_RECEIVABLE			0.5104*** [3.41]									0.0035 [0.42]
INITIAL_ACCOUNTS_RECEIVABLE * OTHER_SERVICES												
MINING_QUARRYING						-3.3428** [-2.05]						-0.2407 [-0.19]
MANUFACTURING						-0.2287 [-0.58]						0.0768 [0.19]
ELECTRICITY_GAS_STEAM_AIR												

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
WATER			-0.0907 [-0.18]			-4.9743*** [-5.84]			0.4936 [1.53]			0.0823 [0.12]
CONSTRUCTION			-0.8898*** [-5.66]			1.1190** [2.24]			0.3648*** [5.78]			0.1178 [0.28]
WHOLESALE_RETAIL_TRADE			-2.6596*** [-27.92]			-2.4277*** [-5.55]			-0.1853*** [-6.25]			-0.0832 [-0.21]
TRANSPORT_STORAGE			-0.7450*** [-3.54]			-3.1118*** [-3.64]			-0.1763** [-2.00]			-0.2838 [-0.62]
ACCOMODATION_FOODSERVICE			-7.7216*** [-33.38]			-3.3832*** [-2.67]			-0.3442*** [-8.32]			0.1616 [0.33]
ICT			2.0081*** [7.58]			1.1276 [1.42]			0.4179*** [4.50]			0.4104 [0.68]
PROF_SCIENCE_TECHNICAL_ACTIVITIES			-2.5422*** [-13.67]						0.0859 [1.34]			0.0146 [0.03]
ART_ENTERTAINMENT_RECREATION			-2.9643** [-2.15]									0.6219 [0.39]
OTHER_SERVICES												
CONSTANT	-1.0997*** [-18.33]	-4.5849*** [-36.92]	-1.9992*** [-21.65]	0.0031 [0.05]	-4.2313*** [-24.86]	-3.2029*** [-22.01]	0.1275*** [4.01]	-6.4191*** [-38.39]	-5.5029*** [-33.74]	0.4755*** [2.99]	-4.4974*** [-16.60]	-5.3657*** [-30.34]
Year FE	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Nobs	347,834	133,313	133,313	53,393	23,880	23,880	82,291	39,191	39,191	122,847	30,836	30,836
R³-overall	0.1525	0.1502	0.1743	0.1584	0.2374	0.2444	0.3876	0.5500	0.5576	0.3532	0.4455	0.4458
Chi²-p-value overall model fit	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 5: Variance Decomposition Analysis model of accounts receivable for European countries

The sample consists of all nonfinancial firms from 2001 to 2008. This Table presents variance decomposition for one model specification for eight different European Countries (Finland, Sweden, The United Kingdom, Greece, Portugal, Italy, France and Czech Republic). The numbers in the body of the Table, excluding the last three rows, correspond to the fraction of the total Type III partial sum of squares of the model specification. We divide the partial sum for each effect by the cumulative partial sum of squares across all the effects in a particular model specification. Consequently, the total of each column is one. We have applied this technique for because we are confronted with an unbalanced data and therefore the number of observations corresponding to each effect is not the same in the different model specification. The interpretation of the values in this Table for the levels of accounts receivables is as follows: the model specification for Finland, 16.57 % of the explained sum of squares is captured by the included covariates in this model specification is related to LOAN. All variables are trimmed at the upper and lower five-percentiles. Year FE are calendar year fixed effects.

	LOW CUSTOMER PAYMENT RISK COUNTRIES		MEDIUM CUSTOMER PAYMENT RISK COUNTRIES		HIGH CUSTOMER PAYMENT RISK COUNTRIES			
	FINLAND	SWEDEN	THE UNITED KINGDOM	FRANCE	ITALY	CZECH REPUBLIC	GREECE	PORTUGAL
INITIAL_ACCOUNTS_RECEIVABLE	0.4777	0.6616	0.9697	0.6459	0.5338	0.3806	0.4779	0.6640
INITIALMEAN_RECEIVABLE_INDUSTRY	0.0605	0.0553	0.0042	0.0774	0.0637	0.0305	0.0467	0.0007
LNTOTALASSETS	0.0642	0.0305	0.0095	0.0450	0.0939	0.2377	0.0687	0.0781
CASHFLOW	0.0104	0.0056	0.0003	0.0035	0.0328	0.0002	0.0152	0.0090
LOAN	0.1657	0.1184	0.0002	0.0986	0.0190	0.0006	0.1585	0.0571
FINANCINGCOST	0.0014	0.0042	0.0013	0.0011	0.0054	0.0039	0.0021	0.0018
LNAGESFIRM	0.0010	0.0013	0.0000	0.0000	0.0145	0.0010	0.0003	0.0001
SALESGROWTH	0.0112	0.0043	0.0034	0.0013	0.0001	0.0130	0.0097	0.0307
PRODUCTQUALITY	0.0921	0.0988	0.0044	0.1028	0.0252	0.1346	0.1057	0.0901
GROSSMARGIN	0.0458	0.0135	0.0034	0.0240	0.1527	0.0793	0.0516	0.0579
YEAR FE	0.0699	0.0065	0.0038	0.0003	0.0589	0.1185	0.0636	0.0104
SUM	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
ADJ R²	0.5481	0.3688	0.4237	0.6051	0.1487	0.2421	0.5557	0.4946
Nobs	36,977	216,646	77,235	1,088,185	133,404	23,880	39,191	30,836

Table 6: What explains the inertia in accounts receivable?

Table 6 shows the parameter estimates that are scaled by the standard deviation of the underlying variable on several different model specifications for each European country ((i.e., Finland, Sweden, The United Kingdom, France, Czech Republic, Italy, Portugal, and Greece) separately. The sample of Belgian non-financial private firms consists of all non-financial private firms in the BELFIRST database from 2001 to 2008. The sample of non-financial private firms in other European countries (Finland, Sweden, The United Kingdom, France, Italy, Czech Republic, Greece or Portugal) consists of all non-financial firms in the Amadeus database from 2001 to 2008. Year Fixed effects denote whether year fixed effects are included in the Panel OLS regressions. For brevity, we do not present the coefficients of the year dummies. T-statistics (Z-statistics) are computed using the standard errors robust to heteroskedasticity. T-statistics (Z-statistics) are in parentheses. Furthermore, we present the R² overall and the number of firm observations. All variables are trimmed at the upper and lower 5-percentiles. *, **, and *** denote significance at the 10 %, 5 %, and 1% levels, respectively. Variable definitions are provided in Appendix 2.

	LOW CUSTOMER PAYMENT RISK COUNTRIES			MEDIUM CUSTOMER PAYMENT RISK COUNTRIES			HIGH CUSTOMER PAYMENT RISK COUNTRIES					
	BELGIUM	FINLAND	SWEDEN	UK	FRANCE		ITALY	CZECH REPUBLIC			GREECE	PORTUGAL
	(1)	(1)	(1)	(1)	(1)	(2)	(1)	(1)	(2)	(3)	(1)	(1)
INITIAL_ACCOUNTS_RECEIVABLE	0.3752*** [21.68]	0.4100*** [21.60]	0.3138*** [26.60]	0.5006*** [12.36]	0.2067*** [21.73]	-0.0451*** [-14.02]	0.1932*** [31.45]	0.3052 [0.75]	0.9192*** [13.25]	0.9405*** [16.51]	0.3845*** [23.03]	0.3694*** [21.35]
INITIALMEAN_RECEIVABLE_INDUSTRY	0.0437*** [5.38]	0.0929*** [31.26]	0.2521*** [48.70]	0.0372*** [10.20]	0.0518*** [29.17]	0.0633*** [52.44]	0.0924*** [24.56]	0.0852*** [9.02]	0.0854*** [9.01]	0.0851*** [8.95]	0.1492*** [17.72]	-0.0276*** [-3.55]
LNTOTALASSETS	0.3918*** [19.50]	0.0958*** [6.55]	0.0463*** [18.64]	0.0995*** [11.35]	0.2957*** [54.04]	0.2921*** [63.42]	0.3386*** [37.21]	0.7044*** [20.76]	0.7439*** [27.18]	0.7464*** [27.23]	0.4467*** [34.28]	0.6167*** [36.85]
CASHFLOW	0.0767*** [5.15]	0.1539*** [16.82]	0.2256*** [26.82]	-0.0067 [-0.76]	0.4059*** [11.07]	0.4014*** [12.11]	-0.3092*** [-7.88]	-0.3747 [-0.47]	-0.3790 [-0.47]	-0.3885 [-0.48]	0.0553*** [8.37]	0.0261*** [3.88]
LOAN	0.0541*** [3.45]	0.0376*** [6.24]	-0.0318*** [-22.69]	0.0515*** [4.47]	0.2280*** [72.06]	0.1054*** [38.12]	0.1886*** [13.13]	0.2963 [0.68]	0.2903 [0.67]	0.2892 [0.66]	0.2783*** [16.99]	0.3579*** [19.77]
FINANCINGCOST	-0.0015 [-0.69]	-0.0036 [-1.23]	0.0153*** [7.15]	-0.0198*** [-6.47]	-0.0144*** [-20.07]	-0.0136*** [-20.85]	-0.0207*** [-11.43]	-0.0408*** [-7.79]	-0.0404*** [-7.70]	-0.0400*** [-7.62]	-0.0257*** [-7.32]	-0.0478*** [-10.96]
LNAGEFIRM	-0.0110 [-1.60]	-0.0472*** [-11.60]	-0.0272*** [-13.75]	-0.0058 [-1.50]	-0.0122*** [-11.39]	-0.0076*** [-6.96]	-0.0554*** [-11.41]	-0.0102 [-1.10]	-0.0110 [-1.18]	-0.0122 [-1.32]	-0.0014 [-0.23]	-0.0024 [-0.29]
SALESGROWTH	-0.0310*** [-8.32]	0.0343*** [34.84]	0.2482*** [76.43]	-0.0313*** [-9.00]	-0.0152*** [-20.35]	-0.0150*** [-21.08]	0.0006 [0.25]	-0.0576*** [-6.54]	-0.0578*** [-6.55]	-0.0581*** [-6.58]	-0.2452*** [-16.18]	-0.2147*** [-12.26]
PRODUCTQUALITY	0.0923*** [13.75]	0.4781*** [21.34]	0.1113*** [42.60]	0.0446*** [8.68]	8.2221*** [6.07]	7.1652*** [9.58]	0.1081*** [20.39]	0.3297*** [26.78]	0.3464*** [19.36]	0.3323*** [26.83]	0.2731*** [37.94]	0.3348*** [25.65]
GROSSMARGIN	-0.1497*** [-18.75]	0.0000*** [28.83]	0.1648*** [44.39]	-0.0745*** [-12.90]	-110.1742*** [-30.08]	-109.6933*** [-37.13]	-0.2707*** [-30.12]	-0.1528*** [-20.09]	-0.1544*** [-20.11]	-0.1392*** [-16.25]	0.2804*** [32.15]	0.2925*** [34.54]
INITIAL_ACCOUNTS_RECEIVABLE * LNTOTALASSETS				0.0356*** [2.96]					0.3330 [1.42]			
INITIAL_ACCOUNTS_RECEIVABLE * LOAN	0.0408*** [3.82]	0.1048*** [4.27]	0.0563*** [7.06]			0.7932*** [76.46]					0.0433*** [4.57]	
INITIAL_ACCOUNTS_RECEIVABLE * PRODUCTQUALITY					-0.7544 [-1.58]				-0.0489 [-1.13]			-0.0368*** [-4.31]
INITIAL_ACCOUNTS_RECEIVABLE * GROSSMARGIN							0.0366*** [7.17]			-0.1702*** [-2.75]		
INITIAL_ACCOUNTS_RECEIVABLE * CASHFLOW												
CONSTANT	-1.3416*** [-13.35]	-1.3319*** [-32.44]	-3.4472*** [-57.10]	-0.0775** [-2.40]	-1.2891*** [-23.24]	-1.0685*** [-25.63]	-4.5833*** [-36.98]	-4.0467*** [-20.74]	-4.2551*** [-24.75]	-4.2667*** [-24.88]	-6.3810*** [-38.08]	-4.5774*** [-16.81]
R²-overall	0.3386	0.5424	0.3552	0.4219	0.4880	0.4950	0.1567	0.2392	0.2363	0.2354	0.5492	0.4446
Nobs	30,231	36,977	216,646	77,235	1,088,185	1,088,185	133,313	23,880	23,880	23,880	39,191	30,836
YEAR FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Wald Chi2 (p-value)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000